



MANITOWOC PUBLIC UTILITIES

1303 South 8th Street P.O. Box 1090 Manitowoc, WI 54221-1090 920-683-4600 FAX 920-686-4348 www.mpu.org

Mr. Randy Matty, P.E.
Air Management Engineer
Wisconsin Department of Natural Resources
2984 Shawano Ave.
Green Bay, WI 54313-6727

October 20, 2014

Subject: Quarterly Excess Emission Report (third quarter 2014)

Dear Mr. Matty:

Enclosed please find the Quarterly Excess Emission Report for the Manitowoc Public Utilities Power Plant as required by permit conditions I.D.3.c.(4), I.D.4.c.(5), I.D.5.c.(3), I.E.2.c.(4), I.E.5.c.(3), and I.E.4.c.(3), of permit no.: 436035930-P23. This report is for the quarter ending September 30, 2014 for our facility located at 701 Columbus Street, Manitowoc, Wisconsin. The report includes: quarterly fuel sampling & analysis reports, continuous opacity monitoring system reports on S-10 & S-20, reports on our SO₂, NO_x and CO monitoring systems on Boilers B28 and B09, quarterly audits performed on our opacity monitors and quarterly cylinder gas audits for the Part 60 and/or Part 75 analyzers on Boiler B28 and B09.

(a.) Below is the 12-month rolling average heat input to the diesel.

P28 Diesel Unit	
July	7 mmBtu
August	6 mmBtu
September	31 mmBtu
<u>Applicable Limit</u>	4,814 mmBtu/month
Compliance Status	In Compliance

RICE NESHAP ZZZZ requirements after May 3, 2013:	
Operate no more than 100 hrs/yr for maintenance and readiness testing, emergency demand response, and local system reliability per [63.6640(f)].	P28 operated 1.75 hours in 2014
There is no time limit on the use of emergency stationary RICE in emergency situations per [63.6640(f)(i)].	P28 operated 6.1 hours for MISO emergencies in 2014

(b.) Compliance activities for the third quarter of 2014 can be summarized as follows:

	<u>8-SO₂</u>	<u>8-NO_X</u>	<u>8-CO</u>	<u>9-SO₂</u>	<u>9-NO_X</u>	<u>9-CO</u>	<u>Opacity S20</u>	<u>Opacity S10</u>
Excess emissions (%)	0%	0%	0%	0%	0%	0%	0 %	0 %
Downtime (%)	0.32 %	0.33 %	0.07 %	0.21%	0.21%	0.34%	0.51 %	1.03 %

(c.) Below are the 12-month rolling average mass emissions from B09.

	B09 SO2 Tons	B09 NOx Tons
July	14.1 tons/month	2.78 tons/month
August	15.0 tons/month	3.16 tons/month
September	15.7 tons/month	3.35 tons/month
<u>Applicable Limits</u>	71.2 tons per month 51.02 tons per month	24.62 tons per month 23.33 tons per month
Compliance Status	In Compliance	In Compliance

(d.) Below are the weighted average monthly paper pellet data.

Month	Tons	% Moisture	% Ash	%Sulfur	%Chlorine	BTU Common
June	2,995.69	3.54	6.35	0.06	0.22	11,695
July	2,338.21	2.10	5.68	0.06	0.30	11,280
August	2,795.19	2.82	6.80	0.10	0.29	10,981
September	1,729.50	3.22	6.50	0.17	----	11,242

Note: All paper pellets were prepared and provided by Pellet America or Greenwood fuels and are classified by the WDNR as non-municipal solid waste.

(e.) Quarterly EPA ECMPS Monitoring Report Submissions.

Monitoring Location	Submission Type	Date Accepted
8 (S20)	QA QTR 3	10/20/2014
8 (S20)	EM QTR 3	10/22/2014
8 (S20)	MP QTR 3	10/20/2014
Stack/Pipe CS0020	MP QTR 3	10/20/2014
9	QA QTR 3	10/20/2014
9	EM QTR 3	10/22/2014
9	MP QTR 3	10/20/2014

(f.) B10 emissions on a 12-month rolling average basis:

Month	B10	B10	B10	B10	B10
	Average PM 12-month (lb)	Average Nox 12-month (lb)	Average SO2 12-month (lb)	Average VOC 12-month (lb)	Average GHG 12-month (ton)
Limit	195	1086	16.7	153	1,492
Jul-14	6.4	35.7	0.5	4.6	50.5
Aug-14	6.0	33.7	0.5	4.4	47.6
Sep-14	5.7	31.7	0.4	4.1	44.8

(g.) B28 emissions on a 12-month rolling average basis:

Month	B8	B8	B8	B8	B8	B8	B8	B8 HI exclude bio.	S20 (B8)	S20 (B8)	S20 (B8)	S20 (B8) Organic Compds	Total B8 HI Rolling 12- month
	Average PM 12-month (ton)	Average PM10 12-month (ton)	Average PM2.5 12-month (ton)	Average CO 12-month (ton)	Average Pb 12-month (ton)	Average F 12-month (ton)	Average H2SO4 12-month (ton)	Average GHG 12-month (ton)	Arsenic 12-month Total	Nox 12-month Total	SO2 12-month Total	12-month Total	[=] mmBtu
Limit	1.383	1.383	0.94	35.5	1.70E-02	0.054	0.64	13,816.0	133,333	98.1	7.76	34.125	7.76
Jul-14	0.920	0.920	0.59	3.4	1.61E-04	0.024	0.18	8,845.8	35,694	0.38	3.48	9.492	0.08
Aug-14	0.862	0.862	0.56	3.5	1.54E-04	0.023	0.17	8,401.4	34,955	0.36	3.27	9.142	0.08
Sep-14	0.838	0.838	0.55	3.1	1.52E-04	0.023	0.17	8,237.0	35,975	0.35	3.23	9.058	0.08

(h.) B09 emissions on a 12-month rolling average basis:

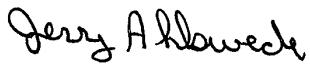
Month	B9	B9	B9	B9	B9	B9	B9	B9	S10 (B9)
	Average PM 12-month (ton)	Average PM10 12-month (ton)	Average PM2.5 12-month (ton)	Average CO 12-month (ton)	Average Pb 12-month (ton)	Average F 12-month (ton)	Average H2SO4 12-month (ton)	Average GHG 12-month (ton)	Arsenic 12-month total
Limit	4.025	3.190	2.560	35.6	0.028	0.3380	0.99	42,289.0	27.40
Jul-14	0.758	0.758	0.595	1.15	5.19E-05	0.0328	0.123	11,921.8	4.42
Aug-14	0.782	0.782	0.641	1.40	5.59E-05	0.0354	0.131	12,819.2	4.76
Sep-14	0.809	0.809	0.677	1.58	5.90E-05	0.0373	0.138	13,500.3	5.03

Furthermore, with regards to Boiler B28 and B09, to the best of my knowledge, based on the information supplied to me:

- a) There were 0 boiler operating days for which pollutant or diluent data have not been obtained by an approved method for at least 18 hours of operation of the facility.
- b) The Fc factor for unit B28 ranged from 1,040 to 1,828 and unit B09 ranged from 1,040 to 1,833. The fuel combusted was an 80%/20% pet coke/coal blend either alone or in combination with paper pellets and/or charcoal on units 8 and 9.
- c) There were 0 times when hourly averages have been obtained based on manual sampling methods.
- d) There were 0 times when the pollutant concentration exceeded full span of the continuous monitoring system.
- e) There were 0 modifications to the continuous monitoring system which could affect the ability of the continuous monitoring system to comply with Performance Specification 2 or 3 of 40 CFR part 60, Appendix B.
- f) There were 0 changes made in operation of the emissions control systems during any period of data unavailability.
- g) The required continuous monitoring system calibration, span, and drift checks or other periodic audits have been performed as specified.
- h) The data used to show compliance was obtained in accordance with approved methods and procedures of NR 440 and is representative of plant performance.
- i) The minimum data requirements have been met.
- j) Compliance with the standards has been achieved during the reporting period except as specified in the enclosed reports.

If you have any questions concerning this report please call me at (920) 686-4211.

Sincerely,



Jerry Ahlswede
Energy Supply and Production Supervisor

Cc: Red Jones – MPU, Tom Reed – MPU, Tim Harding – MPU, Scott Karbon – MPU

Enclosure

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, WI 53707

FUEL SAMPLING & ANALYSIS REPORT
Form 4500-134 4-94

Date Received By DNR

PART I. FACILITY INFORMATION

Name of Company / FID	Manitowoc Public Utilities / 436035930	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2014
Address	701 Columbus Street	Limit None
City, State, Zip Code	Manitowoc, WI 54220	Test Frequency Required <input type="checkbox"/> PER SHIPMENT
Stack/Process	S20 / B28	<input type="checkbox"/> DAILY <input checked="" type="checkbox"/> WEEKLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY

PART II. EXCESS EMISSIONS (EE)

A. Total Fuel Quantity Used as Fired	<input checked="" type="checkbox"/> tons fuel <input type="checkbox"/> 1000 gallons oil	8,103.6
B. Weighted Average Percent Ash as Fired		4.44
C. Weighted Average Percent Sulfur as Fired		2.14
D. Weighted Average Heat Content as Fired	BTU/pound fuel BTU/gallon oil	11,950
E. Weighted Average Sulfur Dioxide as Fired (pounds SO ₂ /mmBtu) (UNCONTROLLED)		3.57
F. Number of Possible Sample Periods In Qtr. (92,91,90,13,3,1, per shipment)		14
G. Number of Actual Samples Performed Per Quarter		14
H. Number of Samples Over Limit		0
I. Percent Unavailability of Samples ¹		0
J. Percent Excess Emission ²		0

¹ (F-G)/F x 100

Fuel is a blend consisting of petroleum coke and/or coal

² (H/G) x 100

plus paper pellets and charcoal.

**If the total duration of excess emissions is greater than 1% or the total percent unavailability is greater than 5%, then both this Fuel Sampling & Analysis Summary and the Complete Fuel Sampling and Analysis Report shall be submitted. If both conditions are satisfied, then only this Fuel Sampling and Analysis Summary and the results of any fuel audits performed shall be submitted. Additional information may be requested by the Department.

I certify that the information contained in this report is true, accurate, and complete.

Signature <i>Jerry Ahlsweide</i>	Title Energy Supply and Production Supervisor	
Printed/Typed Name Jerry Ahlsweide	Telephone Number (incl. Area code) (920) 686-4211	Date Signed <i>10-20-2014</i>

LEAVE BLANK - FOR DNR USE ONLY

Recommendation:	DNR Reviewer _____
	Date Reviewed _____
Comments:	

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, WI 53707

FUEL SAMPLING & ANALYSIS REPORT
Form 4500-134
4-94

Date Received By DNR

PART I. FACILITY INFORMATION

Name of Company / FID	Manitowoc Public Utilities / 436035930	<input type="checkbox"/> 1 <input type="checkbox"/> 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2014
Address	701 Columbus Street	Limit None
City, State, Zip Code	Manitowoc, WI 54220	Test Frequency Required <input type="checkbox"/> PER SHIPMENT
Stack/Process	S10 / B09	<input type="checkbox"/> DAILY <input checked="" type="checkbox"/> WEEKLY <input type="checkbox"/> MONTHLY <input type="checkbox"/> QUARTERLY

PART II. EXCESS EMISSIONS (EE)

A. Total Fuel Quantity Used as Fired	<input checked="" type="checkbox"/> tons fuel <input type="checkbox"/> 1000 gallons oil	17,413.39
B. Weighted Average Percent Ash as Fired		3.78
C. Weighted Average Percent Sulfur as Fired		3.70
D. Weighted Average Heat Content as Fired	<input type="checkbox"/> BTU/pound fuel <input type="checkbox"/> BTU/gallon oil	12,406
E. Weighted Average Sulfur Dioxide as Fired (pounds SO ₂ /mmBtu) (UNCONTROLLED)		5.96
F. Number of Possible Sample Periods In Qtr. (92,91,90,13,3,1, per shipment)		13
G. Number of Actual Samples Performed Per Quarter		13
H. Number of Samples Over Limit		0
I. Percent Unavailability of Samples ¹		0
J. Percent Excess Emission ²		0

¹ (F-G)/F x 100

Fuel is a blend consisting of petroleum coke and/or coal

² (H/G) x 100

plus paper pellets and charcoal.

**If the total duration of excess emissions is greater than 1% or the total percent unavailability is greater than 5%, then both this Fuel Sampling & Analysis Summary and the Complete Fuel Sampling and Analysis Report shall be submitted. If both conditions are satisfied, then only this Fuel Sampling and Analysis Summary and the results of any fuel audits performed shall be submitted. Additional information may be requested by the Department.

I certify that the information contained in this report is true, accurate, and complete.

Signature <i>Jerry Ahlsweide</i>	Title Energy Supply and Production Supervisor	
Printed/Typed Name Jerry Ahlsweide	Telephone Number (incl. Area code) (920) 686-4211	Date Signed <i>10 - 20 - 2014</i>

LEAVE BLANK - FOR DNR USE ONLY

Recommendation:

DNR Reviewer _____

Date Reviewed _____

Comments:

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

Note: Completion of this form is required
pursuant to chapter NR 439, Wis. Adm. Code

Excess Emission Report - Opacity
Form 4500-125 (R 5/09)

Date Received by DNR

PART I. FACILITY INFORMATION

FID/Name of Company 436035930 / Manitowoc Public Utilities

1 2 **3** 4 QTR. 2014

Address 701 Columbus Street
Manitowoc, WI 54220

Cert./CEA 08/07/2014 / 09-23-2014 (date)

Manufacturer/Model Number
United Science Inc. Model No. 550 [old]
Durag D-R 290 – 150 [new]

Stack/Process
S10 / P28, B09

Emission Limit 20%

Total Source Operating Time in Quarter 86.864 (mins)

PART II. CAUSES OF EXCESS EMISSIONS (EE)

Duration of EE (mins) % of Operating Time¹

A. Startup/Shutdown

0 0%

B. Soot Blowing

0 0%

C. Control Equipment Malfunction

0 0%

D. Process Malfunction

0 0%

E. Other Known Causes

0 0%

F. Unknown Causes

0 0%

G. Total (A + B + ...F)

0 0%

PART III. CAUSES OF CEMS DOWNTIME

Downtime (mins) % of Operating Time¹

A. Monitor Equipment Malfunction

0 0%

B. Non-Monitor Equipment Malfunction

60 0.07%

C. QA/QC Calibration

108 0.12%

D. Other Known Causes

726 0.84%

E. Unknown Causes

0 0%

F. Total (A + B + ...E)

894 1.03%

¹ [EE (mins) or Downtime (mins) / Total Operating Time] x 100

² If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature	Jerry A. Ahlsweide	Title	Energy Supply and Production Supervisor
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Printed/Typed Name	Jerry Ahlsweide	Phone Number (incl. Area Code)	Date Signed
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(920) 686-4211

10 - 20 - 2014

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Recommendation

DNR Reviewer

Date Reviewed

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

Note: Completion of this form is required
pursuant to chapter NR 439, Wis. Adm. Code

Excess Emission Report - Opacity
Form 4500-125 (R 5/09)

Date Received by DNR

PART I. FACILITY INFORMATION

FID/Name of Company 436035930 / Manitowoc Public Utilities

1 2 3 4 QTR. 2014

Address 701 Columbus Street
Manitowoc, WI 54220

Cert./CEA 08/06/2014 / 09-23-2014 (date)

Emission Limit 20%

Manufacturer/Model Number
United Science Inc. Model No. 550 [old]
Durag D-R 290 – 150 [new]

Stack/Process
S20 / B28

Total Source Operating Time in Quarter 87,780 (mins)

PART II. CAUSES OF EXCESS EMISSIONS (EE)

Duration of EE (mins)

% of Operating Time¹

A. Startup/Shutdown

0

0%

B. Soot Blowing

0

0%

C. Control Equipment Malfunction

0

0%

D. Process Malfunction

0

0%

E. Other Known Causes

0

0%

F. Unknown Causes

0

0%

G. Total (A + B + ...F)

0

0%

PART III. CAUSES OF CEMS DOWNTIME

Downtime (mins)

% of Operating Time¹

A. Monitor Equipment Malfunction

0

0%

B. Non-Monitor Equipment Malfunction

0

0%

C. QA/QC Calibration

48

0.05%

D. Other Known Causes

402

0.46%

E. Unknown Causes

0

0%

F. Total (A + B + ...E)

450

0.51%

¹ [EE (mins) or Downtime (mins) / Total Operating Time] x 100

² If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature	Jerry A Ahlsweide	Title	Energy Supply and Production Supervisor
Printed/Typed Name	Jerry Ahlsweide	Phone Number (incl. Area Code) (920) 686-4211	Date Signed 10-20-2014

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Recommendation	DNR Reviewer
	Date Reviewed

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

Excess Emission Report - SO₂/NO_x/TRS/H₂S/VOC/CO/Hg
Form 4500-126 (R 5/09)

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

Date Received by DNR

PART I. FACILITY INFORMATION

FID/Name of Company	436035930 / Manitowoc Public Utilities	1 2 <input checked="" type="checkbox"/> 3 4 QTR. 2014 Cert CGA: 09/11/2014 (date)
Address	701 Columbus Street, Manitowoc, WI 54220	Type of Audit: CGA, IAA, RAA, RATA
Manufacturer/Model Number	Stack Process	Emission Limit 0.89 lbs SO ₂ /mmBtu (30-day rolling ave.) 90% reduction of SO ₂ (30-day rolling ave.) 70% reduction of SO ₂ if S < 1%
TEI Model: 43iSO2 S/N 0908635559	S20 / B28	Total Source Operating Time in Quarter 1,394.02 (hrs)
		Pollutant SO ₂

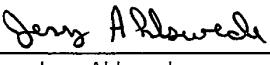
PART II. CAUSES OF EXCESS EMISSIONS (EE)		Duration of EE (hrs)	% of Operating Time ¹
A. Startup/Shutdown		0	0%
B. Process Malfunction		0	0%
C. Control Equipment Malfunction		0	0%
D. Fuel Problems		0	0%
E. Other Known Causes		0	0%
F. Unknown Causes		0	0%
G. Total (A + B + ...F)		0	² 0%

PART III. CAUSES OF CEMS DOWNTIME		Downtime (hrs)	% of Operating Time ¹
A. Monitor Equipment Malfunction		0	0%
B. Non-Monitor Equipment Malfunction		0	0%
C. QA/QC Calibration		4.50	0.32%
D. Other Known Causes		0	0%
E. Unknown Causes		0	0%
F. Total (A + B + ...E)		4.50	² 0.32%

¹ [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

² If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature	Title
	Energy Supply and Production Supervisor
Printed/Typed Name Jerry Ahlsweide	Phone Number (incl. Area Code) (920) 686-4211
	Date Signed 10-20-2014

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Recommendation	DNR Reviewer
	Date Reviewed

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 07/31/2014

Source: S20

Standard Limit: 0.89

Parameter: S20SO2#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
07/01/14	0	0	F	30	698	0.197 F
07/02/14	0	0	F	30	698	0.197 F
07/03/14	0	0	F	30	698	0.197 F
07/04/14	0	0	F	30	698	0.197 F
07/05/14	0	0	F	30	698	0.197 F
07/06/14	23	23	0.123	30	701	0.195
07/07/14	24	24	0.253	30	701	0.194
07/08/14	24	24	0.254	30	701	0.194
07/09/14	24	24	0.250	30	701	0.194
07/10/14	24	24	0.287	30	701	0.195
07/11/14	24	24	0.240	30	701	0.194
07/12/14	24	24	0.238	30	702	0.193
07/13/14	24	24	0.246	30	702	0.195
07/14/14	24	24	0.246	30	702	0.198
07/15/14	24	24	0.200	30	702	0.199
07/16/14	24	24	0.238	30	702	0.203
07/17/14	24	24	0.208	30	702	0.203
07/18/14	24	24	0.207	30	702	0.203
07/19/14	24	24	0.208	30	702	0.208
07/20/14	24	24	0.233	30	702	0.209
07/21/14	24	24	0.233	30	702	0.210
07/22/14	24	24	0.248	30	702	0.211
07/23/14	24	24	0.242	30	702	0.213
07/24/14	24	24	0.247	30	702	0.214
07/25/14	24	24	0.238	30	702	0.215
07/26/14	24	24	0.247	30	702	0.217
07/27/14	24	24	0.238	30	702	0.218
07/28/14	24	24	0.249	30	702	0.219
07/29/14	24	24	0.252	30	702	0.221
07/30/14	24	24	0.231	30	702	0.221
07/31/14	24	24	0.166	30	702	0.219

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 08/01/2014 Through 08/31/2014

Source: S20 Standard Limit: 0.89

Parameter: S20SO2#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
08/01/14	21	21	0.215	30	699	0.219
08/02/14	0	0	F	30	699	0.219 F
08/03/14	0	0	F	30	699	0.219 F
08/04/14	20	20	0.103	30	695	0.215
08/05/14	24	24	0.212	30	695	0.219
08/06/14	24	24	0.205	30	712	0.225
08/07/14	24	24	0.205	30	713	0.228
08/08/14	21	21	0.207	30	710	0.226
08/09/14	0	0	F	30	710	0.226 F
08/10/14	0	0	F	30	710	0.226 F
08/11/14	0	0	F	30	710	0.226 F
08/12/14	0	0	F	30	710	0.226 F
08/13/14	2	2	0.000	30	688	0.218
08/14/14	20	20	0.227	30	684	0.217
08/15/14	0	0	F	30	684	0.217 F
08/16/14	0	0	F	30	684	0.217 F
08/17/14	0	0	F	30	684	0.217 F
08/18/14	0	0	F	30	684	0.217 F
08/19/14	0	0	F	30	684	0.217 F
08/20/14	23	23	0.166	30	683	0.213
08/21/14	24	24	0.231	30	683	0.213
08/22/14	24	24	0.239	30	683	0.213
08/23/14	19	19	0.236	30	678	0.213
08/24/14	16	16	0.207	30	670	0.211
08/25/14	24	24	0.242	30	670	0.213
08/26/14	24	24	0.243	30	670	0.213
08/27/14	24	24	0.239	30	670	0.214
08/28/14	23	23	0.218	30	669	0.214
08/29/14	0	0	F	30	669	0.214 F
08/30/14	0	0	F	30	669	0.214 F
08/31/14	0	0	F	30	669	0.214 F

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 09/01/2014 Through 09/30/2014

Source: S20 Standard Limit: 0.89
Parameter: S20SO2#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
09/01/14	0	0	F	30	669	0.214 F
09/02/14	0	0	F	30	669	0.214 F
09/03/14	21	21	0.157	30	666	0.212
09/04/14	20	20	0.219	30	662	0.212
09/05/14	0	0	F	30	662	0.212 F
09/06/14	0	0	F	30	662	0.212 F
09/07/14	0	0	F	30	662	0.212 F
09/08/14	21	21	0.196	30	659	0.211
09/09/14	24	24	0.199	30	659	0.209
09/10/14	24	24	0.215	30	659	0.208
09/11/14	24	24	0.209	30	659	0.207
09/12/14	19	19	0.221	30	654	0.206
09/13/14	0	0	F	30	654	0.206 F
09/14/14	0	0	F	30	654	0.206 F
09/15/14	0	0	F	30	654	0.206 F
09/16/14	0	0	F	30	654	0.206 F
09/17/14	21	21	0.184	30	651	0.204
09/18/14	23	23	0.210	30	650	0.203
09/19/14	0	0	F	30	650	0.203 F
09/20/14	0	0	F	30	650	0.203 F
09/21/14	4	0		29	626	0.202
09/22/14	24	23	0.214	29	625	0.200
09/23/14	24	24	0.194	29	625	0.199
09/24/14	24	24	0.230	29	625	0.201
09/25/14	24	24	0.202	29	628	0.201
09/26/14	24	24	0.185	29	632	0.204
09/27/14	24	24	0.208	29	632	0.204
09/28/14	24	24	0.222	29	632	0.204
09/29/14	24	24	0.214	29	632	0.205
09/30/14	24	24	0.198	29	635	0.204

F = Unit Offline I = Invalid E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 07/31/2014

Source:	S20	Standard Limit:				
	Parameter:	S20SO2RE	Low Limit:	90		
Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
07/01/14	0	0	F	30	698	94.1 F
07/02/14	0	0	F	30	698	94.1 F
07/03/14	0	0	F	30	698	94.1 F
07/04/14	0	0	F	30	698	94.1 F
07/05/14	0	0	F	30	698	94.1 F
07/06/14	23	23	96.9	30	701	94.2
07/07/14	24	24	93.4	30	701	94.2
07/08/14	24	24	91.6	30	701	94.1
07/09/14	24	24	93.3	30	701	94.2
07/10/14	24	24	92.1	30	701	94.1
07/11/14	24	24	93.6	30	701	94.1
07/12/14	24	24	94.3	30	702	94.1
07/13/14	24	24	94.3	30	702	94.1
07/14/14	24	24	93.5	30	702	94.1
07/15/14	24	24	94.6	30	702	94.1
07/16/14	24	24	92.7	30	702	93.9
07/17/14	24	24	93.8	30	702	93.9
07/18/14	24	24	93.3	30	702	93.9
07/19/14	24	24	95.1	30	702	93.8
07/20/14	24	24	94.3	30	702	93.9
07/21/14	24	24	93.6	30	702	93.9
07/22/14	24	24	93.1	30	702	93.9
07/23/14	24	24	91.9	30	702	93.8
07/24/14	24	24	90.6	30	702	93.7
07/25/14	24	24	91.4	30	702	93.6
07/26/14	24	24	92.8	30	702	93.5
07/27/14	24	24	93.8	30	702	93.6
07/28/14	24	24	92.3	30	702	93.5
07/29/14	24	24	92.4	30	702	93.5
07/30/14	24	24	93.0	30	702	93.5
07/31/14	24	24	95.2	30	702	93.6

F = Unit Offline I = Invalid E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 08/01/2014 Through 08/31/2014

Source: S20

Standard Limit:

Parameter: S20SO2RE

Low Limit:

90

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
08/01/14	21	21	93.0	30	699	93.6
08/02/14	0	0	F	30	699	93.6 F
08/03/14	0	0	F	30	699	93.6 F
08/04/14	20	20	100.0	30	695	93.8
08/05/14	24	24	93.8	30	695	93.8
08/06/14	24	24	94.3	30	712	93.6
08/07/14	24	24	94.9	30	713	93.5
08/08/14	21	21	93.8	30	710	93.5
08/09/14	0	0	F	30	710	93.5 F
08/10/14	0	0	F	30	710	93.5 F
08/11/14	0	0	F	30	710	93.5 F
08/12/14	0	0	F	30	710	93.5 F
08/13/14	2	2	100.0	30	688	93.8
08/14/14	20	20	92.7	30	684	93.8
08/15/14	0	0	F	30	684	93.8 F
08/16/14	0	0	F	30	684	93.8 F
08/17/14	0	0	F	30	684	93.8 F
08/18/14	0	0	F	30	684	93.8 F
08/19/14	0	0	F	30	684	93.8 F
08/20/14	23	23	94.9	30	683	93.9
08/21/14	24	24	93.6	30	683	93.9
08/22/14	24	24	93.4	30	683	93.9
08/23/14	19	19	94.2	30	678	93.9
08/24/14	16	16	94.8	30	670	93.9
08/25/14	24	24	93.2	30	670	93.9
08/26/14	24	24	93.1	30	670	93.9
08/27/14	24	24	93.2	30	670	93.9
08/28/14	23	23	93.9	30	669	93.9
08/29/14	0	0	F	30	669	93.9 F
08/30/14	0	0	F	30	669	93.9 F
08/31/14	0	0	F	30	669	93.9 F

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 09/01/2014 Through 09/30/2014

Source:	S20	Standard Limit:						
		Low Limit: 90						
Parameter:	S20SO2RE	Daily			30 - Day			
		Date	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
		09/01/14	0	0	F	30	669	93.9 F
		09/02/14	0	0	F	30	669	93.9 F
		09/03/14	21	21	95.4	30	666	93.9
		09/04/14	20	20	93.9	30	662	93.9
		09/05/14	0	0	F	30	662	93.9 F
		09/06/14	0	0	F	30	662	93.9 F
		09/07/14	0	0	F	30	662	93.9 F
		09/08/14	21	21	94.7	30	659	93.9
		09/09/14	24	24	94.8	30	659	94.0
		09/10/14	24	24	94.9	30	659	94.1
		09/11/14	24	24	94.5	30	659	94.2
		09/12/14	19	19	93.7	30	654	94.3
		09/13/14	0	0	F	30	654	94.3 F
		09/14/14	0	0	F	30	654	94.3 F
		09/15/14	0	0	F	30	654	94.3 F
		09/16/14	0	0	F	30	654	94.3 F
		09/17/14	21	21	94.6	30	651	94.3
		09/18/14	23	23	94.2	30	650	94.3
		09/19/14	0	0	F	30	650	94.3 F
		09/20/14	0	0	F	30	650	94.3 F
		09/21/14	4	0	I	29	626	94.4
		09/22/14	24	23	93.4	29	625	94.4
		09/23/14	24	24	94.7	29	625	94.5
		09/24/14	24	24	93.8	29	625	94.5
		09/25/14	24	24	94.1	29	628	94.5
		09/26/14	24	24	94.4	29	632	94.3
		09/27/14	24	24	94.8	29	632	94.3
		09/28/14	24	24	94.5	29	632	94.3
		09/29/14	24	24	93.6	29	632	94.3
		09/30/14	24	24	94.2	29	635	94.3

F = Unit Offline I = Invalid E = Exceedance

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

Excess Emission Report - SO₂/NO_x/TRS/H₂S/VOC/CO/Hg
Form 4500-126 (R 5/09)

Date Received by DNR

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

PART I. FACILITY INFORMATION

FID/Name of Company	436035930 / Manitowoc Public Utilities		1 2 <input checked="" type="checkbox"/> 3 4 QTR. 2014 Cert. CGA: 09/11/2014 (date)
Address	701 Columbus Street, Manitowoc, WI 54220		Type of Audit: CGA, IAA, RAA, RATA
		<u>Emission Limit</u> 0.55 lbs NO _x /mmBtu (30-day rolling ave.) 0.20 lbs NO _x /mmBtu during ozone season	
Manufacturer/Model Number	Stack Process	Total Source Operating Time in Quarter <u>1,394.02</u> (hrs)	
TEI Model: 42iNOx S/N 0908635558	S20 / B28	Pollutant <u>NO_x</u>	

PART II. CAUSES OF EXCESS EMISSIONS (EE)		Duration of EE (hrs)	% of Operating Time ¹
A. Startup/Shutdown		0	0%
		0	0%
		0	0%
		0	0%
		0	0%
		0	0%
	G. Total (A + B + ...F)	0	² 0%
PART III. CAUSES OF CEMS DOWNTIME		Downtime (hrs)	% of Operating Time ¹
A. Monitor Equipment Malfunction		0	0%
		0	0%
	C. QA/QC Calibration	4.50	0.32%
	D. Other Known Causes	0.07	0.01%
	E. Unknown Causes	0	0%
	F. Total (A + B + ...E)	4.57	² 0.33%

¹ [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

² If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature	Jerry Ahlsweide	Title	Energy Supply and Production Supervisor
Printed/Typed Name	Jerry Ahlsweide	Phone Number (incl. Area Code)	(920) 686-4211
		Date Signed	10-20-2014

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Recommendation	DNR Reviewer
	Date Reviewed

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 07/31/2014

Source: S20
Parameter: S20NOX#M

Standard Limit: 0.2

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
07/01/14	0	0	F	30	698	0.086 F
07/02/14	0	0	F	30	698	0.086 F
07/03/14	0	0	F	30	698	0.086 F
07/04/14	0	0	F	30	698	0.086 F
07/05/14	0	0	F	30	698	0.086 F
07/06/14	23	23	0.144	30	701	0.090
07/07/14	24	24	0.074	30	701	0.091
07/08/14	24	24	0.052	30	701	0.090
07/09/14	24	24	0.068	30	701	0.090
07/10/14	24	24	0.067	30	701	0.090
07/11/14	24	24	0.053	30	701	0.090
07/12/14	24	24	0.047	30	702	0.090
07/13/14	24	24	0.049	30	702	0.089
07/14/14	24	24	0.054	30	702	0.088
07/15/14	24	24	0.081	30	702	0.088
07/16/14	24	24	0.062	30	702	0.086
07/17/14	24	24	0.085	30	702	0.086
07/18/14	24	24	0.076	30	702	0.086
07/19/14	24	24	0.062	30	702	0.085
07/20/14	24	24	0.054	30	702	0.085
07/21/14	24	24	0.042	30	702	0.084
07/22/14	24	24	0.043	30	702	0.083
07/23/14	24	24	0.049	30	702	0.081
07/24/14	24	24	0.049	30	702	0.080
07/25/14	24	24	0.059	30	702	0.079
07/26/14	24	24	0.051	30	702	0.079
07/27/14	24	24	0.057	30	702	0.078
07/28/14	24	24	0.057	30	702	0.078
07/29/14	24	24	0.051	30	702	0.076
07/30/14	24	24	0.055	30	702	0.076
07/31/14	24	24	0.054	30	702	0.075

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 08/01/2014 Through 08/31/2014

Source: S20

Standard Limit:

0.2

Parameter: S20NOX#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
08/01/14	21	21	0.055	30	699	0.075
08/02/14	0	0	F	30	699	0.075 F
08/03/14	0	0	F	30	699	0.075 F
08/04/14	20	20	0.054	30	695	0.075
08/05/14	24	24	0.064	30	695	0.070
08/06/14	24	24	0.059	30	712	0.061
08/07/14	24	24	0.057	30	713	0.058
08/08/14	21	21	0.055	30	710	0.057
08/09/14	0	0	F	30	710	0.057 F
08/10/14	0	0	F	30	710	0.057 F
08/11/14	0	0	F	30	710	0.057 F
08/12/14	0	0	F	30	710	0.057 F
08/13/14	2	2	0.019	30	688	0.056
08/14/14	20	20	0.043	30	684	0.055
08/15/14	0	0	F	30	684	0.055 F
08/16/14	0	0	F	30	684	0.055 F
08/17/14	0	0	F	30	684	0.055 F
08/18/14	0	0	F	30	684	0.055 F
08/19/14	0	0	F	30	684	0.055 F
08/20/14	23	23	0.039	30	683	0.055
08/21/14	24	24	0.061	30	683	0.055
08/22/14	24	24	0.064	30	683	0.055
08/23/14	19	19	0.069	30	678	0.056
08/24/14	16	16	0.043	30	670	0.056
08/25/14	24	24	0.051	30	670	0.055
08/26/14	24	24	0.059	30	670	0.055
08/27/14	24	24	0.065	30	670	0.054
08/28/14	23	23	0.077	30	669	0.054
08/29/14	0	0	F	30	669	0.054 F
08/30/14	0	0	F	30	669	0.054 F
08/31/14	0	0	F	30	669	0.054 F

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 09/01/2014 Through 09/30/2014

Source: S20

Standard Limit:

0.2

Parameter: S20NOX#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
09/01/14	0	0	F	30	669	0.054 F
09/02/14	0	0	F	30	669	0.054 F
09/03/14	21	21	0.049	30	666	0.053
09/04/14	20	20	0.063	30	662	0.054
09/05/14	0	0	F	30	662	0.054 F
09/06/14	0	0	F	30	662	0.054 F
09/07/14	0	0	F	30	662	0.054 F
09/08/14	21	21	0.044	30	659	0.054
09/09/14	24	24	0.053	30	659	0.054
09/10/14	24	24	0.061	30	659	0.055
09/11/14	24	24	0.089	30	659	0.056
09/12/14	19	19	0.083	30	654	0.057
09/13/14	0	0	F	30	654	0.057 F
09/14/14	0	0	F	30	654	0.057 F
09/15/14	0	0	F	30	654	0.057 F
09/16/14	0	0	F	30	654	0.057 F
09/17/14	21	21	0.043	30	651	0.056
09/18/14	23	23	0.094	30	650	0.058
09/19/14	0	0	F	30	650	0.058 F
09/20/14	0	0	F	30	650	0.058 F
09/21/14	4	0		29	626	0.058
09/22/14	24	23	0.058	29	625	0.058
09/23/14	24	24	0.073	29	625	0.059
09/24/14	24	24	0.062	29	625	0.059
09/25/14	24	24	0.071	29	628	0.059
09/26/14	24	24	0.070	29	632	0.060
09/27/14	24	24	0.082	29	632	0.061
09/28/14	24	24	0.070	29	632	0.061
09/29/14	24	24	0.062	29	632	0.061
09/30/14	24	24	0.058	29	635	0.061

F = Unit Offline

I = Invalid

E = Exceedance

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

Excess Emission Report - SO₂/NO_x/TRS/H₂S/VOC/CO/Hg
Form 4500-126 (R 5/09)

Date Received by DNR

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

PART I. FACILITY INFORMATION

FID/Name of Company	436035930 / Manitowoc Public Utilities	1 2 [3] 4 QTR. 2014 Cert. CGA: 09/11/2014 (date)
Address 701 Columbus Street, Manitowoc, WI 54220		Type of Audit: CGA, IAA, RAA, RATA
Manufacturer/Model Number	Stack Process	Emission Limit 0.36 lbs CO/mmBtu (30-day rolling ave.)
TEI Model: 48iCO S/N CMO8270019	S20 / B28	Total Source Operating Time in Quarter 1,345.23 (hrs)
		Pollutant CO

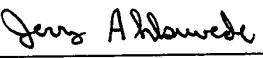
PART II. CAUSES OF EXCESS EMISSIONS (EE)		Duration of EE (hrs)	% of Operating Time ¹
A. Startup/Shutdown		0	0%
B. Process Malfunction		0	0%
C. Control Equipment Malfunction		0	0%
D. Fuel Problems		0	0%
E. Other Known Causes		0	0%
F. Unknown Causes		0	0%
G. Total (A + B + ...F)		0	² 0%

PART III. CAUSES OF CEMS DOWNTIME		Downtime (hrs)	% of Operating Time ¹
A. Monitor Equipment Malfunction		0	0%
B. Non-Monitor Equipment Malfunction		0	0%
C. QA/QC Calibration		1.00	0.07%
D. Other Known Causes		0	0%
E. Unknown Causes		0	0%
F. Total (A + B + ...E)		1.00	² 0.07%

¹ [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

² If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature 	Title Energy Supply and Production Supervisor	
Printed/Typed Name Jerry Ahlsweide	Phone Number (incl. Area Code) (920) 686-4211	Date Signed <i>10-20-2014</i>

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Recommendation	DNR Reviewer _____
	Date Reviewed _____

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 07/31/2014

Source: S20 **Standard Limit:** 0.36
Parameter: S20CO#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
07/01/14	0	0	F	30	693	0.060 F
07/02/14	0	0	F	30	693	0.060 F
07/03/14	0	0	F	30	693	0.060 F
07/04/14	0	0	F	30	693	0.060 F
07/05/14	0	0	F	30	693	0.060 F
07/06/14	16	16	0.064	30	694	0.060
07/07/14	24	23	0.051	30	693	0.059
07/08/14	24	24	0.055	30	693	0.059
07/09/14	24	24	0.043	30	693	0.059
07/10/14	24	24	0.066	30	693	0.059
07/11/14	24	24	0.050	30	693	0.058
07/12/14	24	24	0.070	30	694	0.055
07/13/14	24	24	0.068	30	694	0.052
07/14/14	24	24	0.077	30	694	0.053
07/15/14	24	24	0.080	30	694	0.054
07/16/14	24	24	0.076	30	694	0.055
07/17/14	24	24	0.075	30	694	0.055
07/18/14	24	24	0.076	30	694	0.057
07/19/14	24	24	0.063	30	694	0.057
07/20/14	24	24	0.056	30	694	0.056
07/21/14	24	24	0.062	30	694	0.057
07/22/14	24	24	0.075	30	694	0.057
07/23/14	24	24	0.078	30	694	0.058
07/24/14	24	24	0.063	30	694	0.058
07/25/14	24	24	0.070	30	694	0.059
07/26/14	24	24	0.082	30	694	0.060
07/27/14	24	24	0.093	30	694	0.061
07/28/14	24	24	0.074	30	694	0.062
07/29/14	24	24	0.070	30	694	0.062
07/30/14	24	24	0.067	30	694	0.063
07/31/14	24	24	0.096	30	694	0.065

F = Unit Offline I = Invalid E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 08/01/2014 Through 08/31/2014

Source: S20

Standard Limit: 0.36

Parameter: S20CO#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
08/01/14	21	21	0.067	30	691	0.066
08/02/14	0	0	F	30	691	0.066 F
08/03/14	0	0	F	30	691	0.066 F
08/04/14	15	15	0.077	30	682	0.067
08/05/14	24	24	0.076	30	682	0.069
08/06/14	24	24	0.082	30	699	0.070
08/07/14	24	24	0.067	30	707	0.070
08/08/14	-21	-21	0.061	30	705	0.071
08/09/14	0	0	F	30	705	0.071 F
08/10/14	0	0	F	30	705	0.071 F
08/11/14	0	0	F	30	705	0.071 F
08/12/14	0	0	F	30	705	0.071 F
08/13/14	0	0	F	30	705	0.071 F
08/14/14	16	16	0.079	30	697	0.071
08/15/14	0	0	F	30	697	0.071 F
08/16/14	0	0	F	30	697	0.071 F
08/17/14	0	0	F	30	697	0.071 F
08/18/14	0	0	F	30	697	0.071 F
08/19/14	0	0	F	30	697	0.071 F
08/20/14	17	17	0.443	30	690	0.085
08/21/14	24	24	0.115	30	690	0.086
08/22/14	24	24	0.111	30	690	0.088
08/23/14	19	19	0.117	30	685	0.090
08/24/14	13	13	0.130	30	674	0.092
08/25/14	24	24	0.103	30	674	0.093
08/26/14	24	24	0.093	30	674	0.093
08/27/14	24	24	0.086	30	674	0.094
08/28/14	23	23	0.073	30	673	0.094
08/29/14	0	0	F	30	673	0.094 F
08/30/14	0	0	F	30	673	0.094 F
08/31/14	0	0	F	30	673	0.094 F

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 09/01/2014 Through 09/30/2014

Source:

S20

Standard Limit:

0.36

Parameter:

S20CO#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
09/01/14	0	0	F	30	673	0.094 F
09/02/14	0	0	F	30	673	0.094 F
09/03/14	15	15	0.223	30	664	0.099
09/04/14	20	20	0.068	30	660	0.099
09/05/14	0	0	F	30	660	0.099 F
09/06/14	0	0	F	30	660	0.099 F
09/07/14	0	0	F	30	660	0.099 F
09/08/14	-17	-17	-0.743	30	653	0.122
09/09/14	24	24	0.063	30	653	0.122
09/10/14	24	24	0.060	30	653	0.121
09/11/14	24	24	0.049	30	653	0.120
09/12/14	19	19	0.067	30	648	0.120
09/13/14	0	0	F	30	648	0.120 F
09/14/14	0	0	F	30	648	0.120 F
09/15/14	0	0	F	30	648	0.120 F
09/16/14	0	0	F	30	648	0.120 F
09/17/14	16	16	0.325	30	640	0.129
09/18/14	23	23	0.052	30	639	0.128
09/19/14	0	0	F	30	639	0.128 F
09/20/14	0	0	F	30	639	0.128 F
09/21/14	0	0	F	30	639	0.128 F
09/22/14	21	21	0.069	30	636	0.127
09/23/14	24	24	0.055	30	636	0.126
09/24/14	24	24	0.056	30	636	0.126
09/25/14	24	24	0.063	30	636	0.126
09/26/14	24	24	0.055	30	636	0.124
09/27/14	24	24	0.067	30	639	0.124
09/28/14	24	24	0.058	30	648	0.124
09/29/14	24	24	0.065	30	648	0.123
09/30/14	24	24	0.059	30	648	0.123

F = Unit Offline

I = Invalid

E = Exceedance

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

Excess Emission Report - SO₂/NO_x/TRS/H₂S/VOC/CO/Hg
Form 4500-126 (R 5/09)

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

Date Received by DNR

PART I. FACILITY INFORMATION

FID/Name of Company	436035930 / Manitowoc Public Utilities	1 2 <input checked="" type="checkbox"/> 3 4 QTR. 2014 Cert. <u>CGA: 09-08-2014</u> (date)
Address	701 Columbus Street, Manitowoc, WI 54220	Type of Audit: <u>CGA</u> , IAA, RAA, RATA
Manufacturer/Model Number	Stack Process	Emission Limit 0.30 lbs SO ₂ /mmBtu (30-day rolling ave.) 70% reduction of SO ₂ (30-day rolling ave.)
TEI Model: 43iSO2 S/N 43i0510511567	S10 / B09	Total Source Operating Time in Quarter <u>1.437.48</u> (hrs)
		Pollutant <u>SO₂</u>

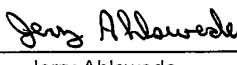
PART II. CAUSES OF EXCESS EMISSIONS (EE)		Duration of EE (hrs)	% of Operating Time ¹
A. Startup/Shutdown		0	0%
		0	0%
		0	0%
		0	0%
		0	0%
		0	0%
	G. Total (A + B + ...F)	0	² 0%

PART III. CAUSES OF CEMS DOWNTIME		Downtime (hrs)	% of Operating Time ¹
A. Monitor Equipment Malfunction		0	0%
		0	0%
	C. QA/QC Calibration	3.00	0.21%
	D. Other Known Causes	0	0%
	E. Unknown Causes	0	0%
	F. Total (A + B + ...E)	3.00	² 0.21%

¹ [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

² If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature 	Title Energy Supply and Production Supervisor	
Printed/Typed Name Jerry Ahlsweide	Phone Number (incl. Area Code) (920) 686-4211	Date Signed 10-20-2014

LEAVE BLANK - FOR DNR USE ONLY

Recommendation	DNR-Reviewer
	Date Reviewed

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:

B9

Standard Limit:

0.3

Parameter:

B9SO2#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
07/01/14	24	24	0.241	30	625	0.201
07/02/14	17	17	0.230	30	618	0.201
07/03/14	0	0	F	30	618	0.201 F
07/04/14	0	0	F	30	618	0.201 F
07/05/14	0	0	F	30	618	0.201 F
07/06/14	0	0	F	30	618	0.201 F
07/07/14	0	0	F	30	618	0.201 F
07/08/14	3	3	0.000	30	597	0.193
07/09/14	24	24	0.266	30	597	0.194
07/10/14	23	23	0.236	30	596	0.194
07/11/14	0	0	F	30	596	0.194 F
07/12/14	0	0	F	30	596	0.194 F
07/13/14	0	0	F	30	596	0.194 F
07/14/14	0	0	F	30	596	0.194 F
07/15/14	0	0	F	30	596	0.194 F
07/16/14	0	0	F	30	596	0.194 F
07/17/14	0	0	F	30	596	0.194 F
07/18/14	0	0	F	30	596	0.194 F
07/19/14	0	0	F	30	596	0.194 F
07/20/14	3	3	0.000	30	577	0.185
07/21/14	23	23	0.244	30	580	0.186
07/22/14	23	20	0.239	30	599	0.194
07/23/14	0	0	F	30	599	0.194 F
07/24/14	0	0	F	30	599	0.194 F
07/25/14	0	0	F	30	599	0.194 F
07/26/14	0	0	F	30	599	0.194 F
07/27/14	1	1	0.000	30	598	0.194
07/28/14	24	24	0.240	30	598	0.197
07/29/14	24	24	0.242	30	598	0.197
07/30/14	24	24	0.243	30	598	0.197
07/31/14	24	24	0.227	30	598	0.197
08/01/14	24	24	0.219	30	598	0.196
08/02/14	24	24	0.241	30	598	0.197
08/03/14	24	24	0.240	30	598	0.197
08/04/14	24	24	0.238	30	598	0.197
08/05/14	24	24	0.236	30	599	0.197
08/06/14	24	24	0.238	30	619	0.205
08/07/14	24	24	0.240	30	619	0.204
08/08/14	24	24	0.234	30	619	0.204
08/09/14	24	24	0.254	30	619	0.204
08/10/14	24	24	0.238	30	619	0.205
08/11/14	24	24	0.241	30	620	0.206
08/12/14	24	24	0.224	30	642	0.213

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:

B9

Standard Limit:

0.3

Parameter:

B9SO2#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
08/13/14	24	24	0.235	30	642	0.214
08/14/14	24	24	0.233	30	642	0.214
08/15/14	24	24	0.230	30	642	0.214
08/16/14	24	24	0.239	30	642	0.214
08/17/14	24	24	0.233	30	642	0.214
08/18/14	24	24	0.239	30	642	0.214
08/19/14	24	24	0.234	30	649	0.214
08/20/14	24	24	0.225	30	670	0.221
08/21/14	24	24	0.223	30	670	0.220
08/22/14	24	24	0.233	30	671	0.220
08/23/14	24	24	0.234	30	692	0.228
08/24/14	24	24	0.234	30	693	0.227
08/25/14	24	24	0.231	30	697	0.227
08/26/14	24	24	0.231	30	720	0.235
08/27/14	24	24	0.236	30	720	0.235
08/28/14	24	24	0.241	30	720	0.235
08/29/14	24	24	0.243	30	720	0.235
08/30/14	24	24	0.238	30	720	0.235
08/31/14	24	24	0.237	30	720	0.236
09/01/14	24	24	0.233	30	720	0.235
09/02/14	24	24	0.233	30	720	0.235
09/03/14	24	24	0.236	30	720	0.235
09/04/14	24	24	0.230	30	720	0.235
09/05/14	24	24	0.234	30	720	0.235
09/06/14	24	24	0.233	30	720	0.235
09/07/14	24	24	0.236	30	720	0.235
09/08/14	24	24	0.239	30	720	0.234
09/09/14	24	24	0.230	30	720	0.234
09/10/14	24	24	0.214	30	720	0.233
09/11/14	24	24	0.228	30	720	0.233
09/12/14	24	24	0.221	30	720	0.233
09/13/14	24	24	0.221	30	720	0.232
09/14/14	24	24	0.230	30	720	0.232
09/15/14	24	24	0.235	30	720	0.232
09/16/14	24	24	0.233	30	720	0.232
09/17/14	24	24	0.233	30	720	0.232
09/18/14	24	24	0.218	30	720	0.231
09/19/14	23	23	0.230	30	719	0.232
09/20/14	0	0	F	30	719	0.232 F
09/21/14	0	0	F	30	719	0.232 F
09/22/14	0	0	F	30	719	0.232 F
09/23/14	0	0	F	30	719	0.232 F
09/24/14	2	2	0.000	30	697	0.224
09/25/14	0	0	F	30	697	0.224 F

F = Unit Offline

I = Inactive

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:

B9

Standard Limit:

0.3

Parameter:

B9SO2#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
09/26/14	0	0	F	30	697	0.224 F
09/27/14	0	0	F	30	697	0.224 F
09/28/14	0	0	F	30	697	0.224 F
09/29/14	0	0	F	30	697	0.224 F
09/30/14	0	0	F	30	697	0.224 F

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:	B9	Standard Limit:					
	Parameter:	Low Limit: 90					
Date		Daily			30 - Day		
		Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	
07/01/14		24	24	95.8	30	625	
07/02/14		17	17	95.3	30	618	
07/03/14		0	0	F	30	618	
07/04/14		0	0	F	30	618	
07/05/14		0	0	F	30	618	
07/06/14		0	0	F	30	618	
07/07/14		0	0	F	30	618	
07/08/14		3	3	100.0	30	597	
07/09/14		24	24	95.9	30	597	
07/10/14		23	23	96.1	30	596	
07/11/14		0	0	F	30	596	
07/12/14		0	0	F	30	596	
07/13/14		0	0	F	30	596	
07/14/14		0	0	F	30	596	
07/15/14		0	0	F	30	596	
07/16/14		0	0	F	30	596	
07/17/14		0	0	F	30	596	
07/18/14		0	0	F	30	596	
07/19/14		0	0	F	30	596	
07/20/14		3	3	100.0	30	577	
07/21/14		23	23	96.1	30	580	
07/22/14		23	20	96.1	30	599	
07/23/14		0	0	F	30	599	
07/24/14		0	0	F	30	599	
07/25/14		0	0	F	30	599	
07/26/14		0	0	F	30	599	
07/27/14		1	1	100.0	30	598	
07/28/14		24	24	95.9	30	598	
07/29/14		24	24	96.0	30	598	
07/30/14		24	24	95.9	30	598	
07/31/14		24	24	96.3	30	598	
08/01/14		24	24	95.9	30	598	
08/02/14		24	24	95.1	30	598	
08/03/14		24	24	96.0	30	598	
08/04/14		24	24	95.8	30	598	
08/05/14		24	24	95.9	30	599	
08/06/14		24	24	96.1	30	619	
08/07/14		24	24	95.8	30	619	
08/08/14		24	24	95.3	30	619	
08/09/14		24	24	95.2	30	619	
08/10/14		24	24	95.9	30	619	
08/11/14		24	24	96.1	30	620	
08/12/14		24	24	95.6	30	642	

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source: B9

Standard Limit:

Parameter: B9SO2RED

Low Limit:

90

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
08/13/14	24	24	95.7	30	642	96.3
08/14/14	24	24	95.8	30	642	96.3
08/15/14	24	24	95.4	30	642	96.3
08/16/14	24	24	95.9	30	642	96.2
08/17/14	24	24	96.5	30	642	96.3
08/18/14	24	24	95.8	30	642	96.3
08/19/14	24	24	95.5	30	649	96.3
08/20/14	24	24	96.3	30	670	96.1
08/21/14	24	24	95.8	30	670	96.1
08/22/14	24	24	96.1	30	671	96.1
08/23/14	24	24	95.7	30	692	96.0
08/24/14	24	24	96.4	30	693	96.0
08/25/14	24	24	96.1	30	697	96.0
08/26/14	24	24	96.2	30	720	95.9
08/27/14	24	24	95.9	30	720	95.9
08/28/14	24	24	95.7	30	720	95.9
08/29/14	24	24	95.9	30	720	95.9
08/30/14	24	24	96.3	30	720	95.9
08/31/14	24	24	95.7	30	720	95.9
09/01/14	24	24	96.1	30	720	95.9
09/02/14	24	24	96.3	30	720	95.9
09/03/14	24	24	95.7	30	720	95.9
09/04/14	24	24	95.9	30	720	95.9
09/05/14	24	24	95.3	30	720	95.9
09/06/14	24	24	96.2	30	720	95.9
09/07/14	24	24	96.4	30	720	95.9
09/08/14	24	24	96.0	30	720	95.9
09/09/14	24	24	96.2	30	720	96.0
09/10/14	24	24	96.4	30	720	96.0
09/11/14	24	24	96.0	30	720	96.0
09/12/14	24	24	96.2	30	720	96.0
09/13/14	24	24	96.3	30	720	96.0
09/14/14	24	24	96.6	30	720	96.0
09/15/14	24	24	96.1	30	720	96.1
09/16/14	24	24	95.8	30	720	96.0
09/17/14	24	24	96.4	30	720	96.0
09/18/14	24	24	96.4	30	720	96.1
09/19/14	23	23	95.9	30	719	96.1
09/20/14	0	0	F	30	719	96.1 F
09/21/14	0	0	F	30	719	96.1 F
09/22/14	0	0	F	30	719	96.1 F
09/23/14	0	0	F	30	719	96.1 F
09/24/14	2	2	100.0	30	697	96.2
09/25/14	0	0	F	30	697	96.2 F

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:	B9	Standard Limit:				
Parameter:	B9SO2RED	Low Limit: 90				
Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
09/26/14	0	0	F	30	697	96.2 F
09/27/14	0	0	F	30	697	96.2 F
09/28/14	0	0	F	30	697	96.2 F
09/29/14	0	0	F	30	697	96.2 F
09/30/14	0	0	F	30	697	96.2 F

F = Unit Offline

I = Invalid

E = Exceedance

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

Excess Emission Report - SO₂/NO_x/TRS/H₂S/VOC/CO/Hg
Form 4500-126 (R 5/09)

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

Date Received by DNR

PART I. FACILITY INFORMATION

FID/Name of Company	436035930 / Manitowoc Public Utilities	1 2 <input checked="" type="checkbox"/> 3 <input type="checkbox"/> 4 QTR. 2013 Cert. <u>CGA: 09-08-2014</u> (date)
Address	701 Columbus Street, Manitowoc, WI 54220	Type of Audit: <u>CGA, IAA, RAA, RATA</u>
Manufacturer/Model Number	Stack Process	Emission Limit <u>0.155 lbs NO_x/mmBtu (30-day rolling ave.)</u>
TEI Model: 42iNOx S/N 42i0510511562	S10 / B09	Total Source Operating Time in Quarter <u>1,437.48</u> (hrs) Pollutant <u>NO_x</u>

PART II. CAUSES OF EXCESS EMISSIONS (EE)

	Duration of EE (hrs)	% of Operating Time ¹
A. Startup/Shutdown	0	0%
B. Process Malfunction	0	0%
C. Control Equipment Malfunction	0	0%
D. Fuel Problems	0	0%
E. Other Known Causes	0	0%
F. Unknown Causes	0	0%
G. Total (A + B + ...F)	0	² 0%

PART III. CAUSES OF CEMS DOWNTIME

	Downtime (hrs)	% of Operating Time ¹
A. Monitor Equipment Malfunction	0	0%
B. Non-Monitor Equipment Malfunction	0	0%
C. QA/QC Calibration	3.00	0.21%
D. Other Known Causes	0	0%
E. Unknown Causes	0	0%
F. Total (A + B + ...E)	3.00	² 0.21%

¹ [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

² If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature	Title	
	Energy Supply and Production Supervisor	
Printed/Typed Name	Phone Number (incl. Area Code)	Date Signed
Jerry Ahlsweide	(920) 686-4211	10-20-2014

LEAVE BLANK - FOR DNR USE ONLY

Recommendation	DNR Reviewer
	Date Reviewed

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:

B9

Standard Limit:

0.15

Parameter:

B9NOX#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
07/01/14	24	24	0.044	30	625	0.050
07/02/14	17	17	0.035	30	618	0.049
07/03/14	0	0	F	30	618	0.049 F
07/04/14	0	0	F	30	618	0.049 F
07/05/14	0	0	F	30	618	0.049 F
07/06/14	0	0	F	30	618	0.049 F
07/07/14	0	0	F	30	618	0.049 F
07/08/14	3	3	0.045	30	597	0.049
07/09/14	24	24	0.055	30	597	0.050
07/10/14	23	23	0.053	30	596	0.051
07/11/14	0	0	F	30	596	0.051 F
07/12/14	0	0	F	30	596	0.051 F
07/13/14	0	0	F	30	596	0.051 F
07/14/14	0	0	F	30	596	0.051 F
07/15/14	0	0	F	30	596	0.051 F
07/16/14	0	0	F	30	596	0.051 F
07/17/14	0	0	F	30	596	0.051 F
07/18/14	0	0	F	30	596	0.051 F
07/19/14	0	0	F	30	596	0.051 F
07/20/14	3	3	0.046	30	577	0.050
07/21/14	23	23	0.050	30	580	0.050
07/22/14	23	20	0.042	30	599	0.051
07/23/14	0	0	F	30	599	0.051 F
07/24/14	0	0	F	30	599	0.051 F
07/25/14	0	0	F	30	599	0.051 F
07/26/14	0	0	F	30	599	0.051 F
07/27/14	1	1	0.039	30	598	0.050
07/28/14	24	24	0.055	30	598	0.049
07/29/14	24	24	0.059	30	598	0.049
07/30/14	24	24	0.038	30	598	0.049
07/31/14	24	24	0.053	30	598	0.049
08/01/14	24	24	0.067	30	598	0.049
08/02/14	24	24	0.074	30	598	0.050
08/03/14	24	24	0.065	30	598	0.050
08/04/14	24	24	0.052	30	598	0.051
08/05/14	24	24	0.063	30	599	0.052
08/06/14	24	24	0.072	30	619	0.053
08/07/14	24	24	0.072	30	619	0.053
08/08/14	24	24	0.078	30	619	0.055
08/09/14	24	24	0.072	30	619	0.056
08/10/14	24	24	0.053	30	619	0.055
08/11/14	24	24	0.058	30	620	0.055
08/12/14	24	24	0.049	30	642	0.055

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:

B9

Standard Limit:

0.15

Parameter:

B9NOX#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
08/13/14	24	24	0.058	30	642	0.055
08/14/14	24	24	0.079	30	642	0.056
08/15/14	24	24	0.086	30	642	0.057
08/16/14	24	24	0.083	30	642	0.058
08/17/14	24	24	0.071	30	642	0.059
08/18/14	24	24	0.047	30	642	0.059
08/19/14	24	24	0.056	30	649	0.060
08/20/14	24	24	0.063	30	670	0.060
08/21/14	24	24	0.064	30	670	0.061
08/22/14	24	24	0.057	30	671	0.061
08/23/14	24	24	0.056	30	692	0.061
08/24/14	24	24	0.047	30	693	0.061
08/25/14	24	24	0.042	30	697	0.061
08/26/14	24	24	0.054	30	720	0.061
08/27/14	24	24	0.068	30	720	0.062
08/28/14	24	24	0.052	30	720	0.062
08/29/14	24	24	0.046	30	720	0.062
08/30/14	24	24	0.042	30	720	0.061
08/31/14	24	24	0.045	30	720	0.061
09/01/14	24	24	0.031	30	720	0.059
09/02/14	24	24	0.032	30	720	0.058
09/03/14	24	24	0.053	30	720	0.058
09/04/14	24	24	0.052	30	720	0.058
09/05/14	24	24	0.048	30	720	0.057
09/06/14	24	24	0.043	30	720	0.056
09/07/14	24	24	0.033	30	720	0.055
09/08/14	24	24	0.033	30	720	0.053
09/09/14	24	24	0.029	30	720	0.053
09/10/14	24	24	0.049	30	720	0.052
09/11/14	24	24	0.073	30	720	0.053
09/12/14	24	24	0.080	30	720	0.054
09/13/14	24	24	0.087	30	720	0.054
09/14/14	24	24	0.070	30	720	0.053
09/15/14	24	24	0.050	30	720	0.052
09/16/14	24	24	0.043	30	720	0.051
09/17/14	24	24	0.046	30	720	0.051
09/18/14	24	24	0.050	30	720	0.051
09/19/14	23	23	0.054	30	719	0.051
09/20/14	0	0	F	30	719	0.051 F
09/21/14	0	0	F	30	719	0.051 F
09/22/14	0	0	F	30	719	0.051 F
09/23/14	0	0	F	30	719	0.051 F
09/24/14	2	2	0.034	30	697	0.050
09/25/14	0	0	F	30	697	0.050 F

F = Unit Offline

I = Inaction

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source: B9

Standard Limit: 0.15

Parameter: B9NOX#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
09/26/14	0	0	F	30	697	0.050 F
09/27/14	0	0	F	30	697	0.050 F
09/28/14	0	0	F	30	697	0.050 F
09/29/14	0	0	F	30	697	0.050 F
09/30/14	0	0	F	30	697	0.050 F

F = Unit Offline

I = Invalid

E = Exceedance

Report Generated: 10/17/14 06:30

Report Version 3.1.1108

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MPU04459

State of Wisconsin
Department of Natural Resources
Box 7921
Madison, Wisconsin 53707

Excess Emission Report - SO₂/NO_x/TRS/H₂S/VOC/CO/Hg

Form 4500-126 (R 5/09)

Date Received by DNR

Note: Completion of this form is required pursuant to chapter NR 439, Wis. Adm. Code.

PART I. FACILITY INFORMATION

FID/Name of Company	436035930 / Manitowoc Public Utilities			1 2 <input checked="" type="checkbox"/> 3 4 QTR. 2013 Cert. <u>CGA: 09-08-2014</u> (date)
Address 701 Columbus Street, Manitowoc, WI 54220				Type of Audit: <u>CGA, IAA, RAA, RATA</u>
				Emission Limit <u>0.15 lbs CO/mmBtu (30-day rolling ave.)</u>
Manufacturer/Model Number	Stack Process	Total Source Operating Time in Quarter <u>1.409.57</u> (hrs)		
TEI Model: 48iCO S/N 48i0510511587	S10 / B09	Pollutant <u>CO</u>		

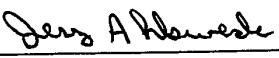
PART II. CAUSES OF EXCESS EMISSIONS (EE)		Duration of EE (hrs)	% of Operating Time ¹
A. Startup/Shutdown	0	0%	
	0	0%	
	0	0%	
	0	0%	
	0	0%	
	0	0%	
	0	0%	
G. Total (A + B + ...F)	²	0	

PART III. CAUSES OF CEMS DOWNTIME		Downtime (hrs)	% of Operating Time ¹
A. Monitor Equipment Malfunction	0	0%	
	0	0%	
	3.35	0.24%	
	1.48	0.10%	
	0	0%	
	4.83	² 0.34%	
F. Total (A + B + ...E)			

¹ [EE (hrs) or Downtime (hrs) / Total Operating Time] x 100

² If the total duration of excess emissions is 1% or greater, or the total CEMS downtime is 5% or greater then both this Unit Summary Report and the Complete Excess Emission Report shall be submitted. If both the total duration of excess emissions is less than 1% and the total CEMS downtime is less than 5%, then only this Unit Summary Report and the quarterly audit shall be submitted.

I certify that the information contained in this report is true, accurate, and complete.

Signature 	Title <u>Energy Supply and Production Supervisor</u>	
Printed/Typed Name <u>Jerry Ahlsweide</u>	Phone Number (incl. Area Code) <u>(920) 686-4211</u>	Date Signed <u>10-20-2014</u>

LEAVE BLANK - FOR DNR USE ONLY		
Recommendation	DNR Reviewer	Date Reviewed

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:

B9

Standard Limit:

0.15

Parameter:

B9CO#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
07/01/14	24	24	0.065	30	696	0.031
07/02/14	17	17	0.040	30	689	0.031
07/03/14	0	0	F	30	689	0.031 F
07/04/14	0	0	F	30	689	0.031 F
07/05/14	0	0	F	30	689	0.031 F
07/06/14	0	0	F	30	689	0.031 F
07/07/14	0	0	F	30	689	0.031 F
07/08/14	0	0	F	30	689	0.031 F
07/09/14	19	18	0.019	30	683	0.031
07/10/14	23	23	0.029	30	682	0.031
07/11/14	0	0	F	30	682	0.031 F
07/12/14	0	0	F	30	682	0.031 F
07/13/14	0	0	F	30	682	0.031 F
07/14/14	0	0	F	30	682	0.031 F
07/15/14	0	0	F	30	682	0.031 F
07/16/14	0	0	F	30	682	0.031 F
07/17/14	0	0	F	30	682	0.031 F
07/18/14	0	0	F	30	682	0.031 F
07/19/14	0	0	F	30	682	0.031 F
07/20/14	0	0	F	30	682	0.031 F
07/21/14	17	17	0.034	30	675	0.031
07/22/14	23	20	0.024	30	671	0.031
07/23/14	0	0	F	30	671	0.031 F
07/24/14	0	0	F	30	671	0.031 F
07/25/14	0	0	F	30	671	0.031 F
07/26/14	0	0	F	30	671	0.031 F
07/27/14	0	0	F	30	671	0.031 F
07/28/14	17	16	0.035	30	663	0.030
07/29/14	24	24	0.038	30	663	0.030
07/30/14	24	24	0.026	30	663	0.030
07/31/14	24	24	0.022	30	665	0.030
08/01/14	24	24	0.018	30	669	0.030
08/02/14	24	24	0.023	30	676	0.030
08/03/14	24	24	0.030	30	676	0.030
08/04/14	24	24	0.014	30	676	0.030
08/05/14	24	24	0.020	30	676	0.030
08/06/14	24	24	0.016	30	676	0.029
08/07/14	24	24	0.015	30	676	0.029
08/08/14	24	24	0.017	30	676	0.028
08/09/14	24	24	0.023	30	676	0.028
08/10/14	24	24	0.031	30	677	0.028
08/11/14	24	24	0.055	30	680	0.029
08/12/14	24	24	0.070	30	680	0.031

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities
Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:

B9

Standard Limit:

0.15

Parameter:

B9CO#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
08/13/14	24	24	0.053	30	680	0.032
08/14/14	24	24	0.038	30	680	0.032
08/15/14	24	24	0.033	30	681	0.032
08/16/14	24	24	0.041	30	687	0.032
08/17/14	24	24	0.049	30	687	0.033
08/18/14	24	24	0.045	30	687	0.034
08/19/14	24	24	0.055	30	687	0.034
08/20/14	24	24	0.034	30	687	0.034
08/21/14	24	24	0.042	30	687	0.033
08/22/14	24	24	0.065	30	694	0.034
08/23/14	24	24	0.063	30	700	0.035
08/24/14	24	24	0.053	30	701	0.036
08/25/14	24	24	0.053	30	708	0.037
08/26/14	24	24	0.047	30	712	0.038
08/27/14	24	24	0.042	30	720	0.038
08/28/14	24	24	0.049	30	720	0.038
08/29/14	24	24	0.063	30	720	0.039
08/30/14	24	24	0.078	30	720	0.041
08/31/14	24	24	0.067	30	720	0.043
09/01/14	24	24	0.070	30	720	0.044
09/02/14	24	24	0.046	30	720	0.045
09/03/14	24	24	0.045	30	720	0.046
09/04/14	24	24	0.044	30	720	0.047
09/05/14	24	24	0.050	30	720	0.048
09/06/14	24	24	0.054	30	720	0.049
09/07/14	24	24	0.058	30	720	0.051
09/08/14	24	24	0.026	30	720	0.051
09/09/14	24	24	0.027	30	720	0.051
09/10/14	24	24	0.013	30	720	0.049
09/11/14	24	24	0.019	30	720	0.047
09/12/14	24	24	0.032	30	720	0.047
09/13/14	24	24	0.036	30	720	0.047
09/14/14	24	24	0.039	30	720	0.047
09/15/14	24	24	0.038	30	720	0.047
09/16/14	24	24	0.037	30	720	0.046
09/17/14	24	24	0.033	30	720	0.046
09/18/14	24	24	0.043	30	720	0.046
09/19/14	23	23	0.043	30	719	0.046
09/20/14	0	0	F	30	719	0.046 F
09/21/14	0	0	F	30	719	0.046 F
09/22/14	0	0	F	30	719	0.046 F
09/23/14	0	0	F	30	719	0.046 F
09/24/14	0	0	F	30	719	0.046 F
09/25/14	0	0	F	30	719	0.046 F

F = Unit Offline

I = Invalid

E = Exceedance

30 Day Rolling Average Detail

Plant: Manitowoc Public Utilities

Operating Day Criteria = 1 hours

Report Period: 07/01/2014 Through 09/30/2014

Source:

B9

Standard Limit:

0.15

Parameter:

B9CO#M

Date	Daily			30 - Day		
	Operating Hours	Valid Hours	Average	Valid Days	Valid Hours	Average
09/26/14	0	0	F	30	719	0.046 F
09/27/14	0	0	F	30	719	0.046 F
09/28/14	0	0	F	30	719	0.046 F
09/29/14	0	0	F	30	719	0.046 F
09/30/14	0	0	F	30	719	0.046 F

F = Unit Offline

I = Invalid

E = Exceedance

Report Generated: 10/17/14 09:03

Report Version 3.1.1108

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MPU04463



MANITOWOC PUBLIC UTILITIES

1303 South 8th Street P.O. Box 1090 Manitowoc, WI 54221-1090 920-683-4600 FAX 920-686-4348 www.mpu.org

3rd Quarter 2014 Results Quarterly Audits Manitowoc Public Utilities Manitowoc, Wisconsin

Results of Calibration Error Test
Federal Register Part 60 Appendix B
Performance Specification 1
Continuous Emission Monitoring Systems
in Stationary Sources
at
Manitowoc Public Utilities
Manitowoc, Wisconsin



MANITOWOC PUBLIC UTILITIES

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S10 OPACITY Calibration Error Test Results:

Low Range - Allowed 3.0% Actual = 0.30%
Mid Range - Allowed 3.0% Actual = 0.20%
High Range - Allowed 3.0% Actual = 1.34%

S20 OPACITY Calibration Error Test Results:

Low Range - Allowed 3.0% Actual = 0.13%
Mid Range - Allowed 3.0% Actual = 0.10%
High Range - Allowed 3.0% Actual = 1.20%

BOILER #8/S20 CEMS Calibration Error Test Results:

ESC8832 Dilution Extractive System

Nox Low Range - Low Allowed 15%, Actual = 0.20%
Nox Low Range - Mid Allowed 15%, Actual = 0.20%
Nox High Range - Low Allowed 15%, Actual = 0.20%
Nox High Range - Mid Allowed 15%, Actual = 0.40%
So2 Low Range - Low Allowed 15%, Actual = 1.10%
So2 Low Range - Mid Allowed 15%, Actual = 0.20%
So2 High Range - Low Allowed 15%, Actual = 1.10%
So2 High Range - Mid Allowed 15%, Actual = 2.60%
Co2 - Low Range Allowed 15%, Actual = 0.01%
Co2 - Mid Range Allowed 15%, Actual = 0.60%
CO Low Range - Mid Allowed 15%, Actual = 0.10%
CO Low Range - High Allowed 15%, Actual = 1.10%
CO High Range - Mid Allowed 15%, Actual = 2.20%
CO High Range - High Allowed 15%, Actual = 3.70%

BOILER #9 CEMS Calibration Error Test Results:

ESC8832 Dilution Extractive System

Nox Low Range - Low Allowed 15%, Actual = 0.90%
Nox Low Range - Mid Allowed 15%, Actual = 3.70%
Nox High Range - Low Allowed 15%, Actual = 0.10%
Nox High Range - Mid Allowed 15%, Actual = 1.90%
So2 Low Range - Low Allowed 15%, Actual = 2.50%
So2 Low Range - Mid Allowed 15%, Actual = 2.10%
So2 High Range - Low Allowed 15%, Actual = 0.70%
So2 High Range - Mid Allowed 15%, Actual = 0.50%
Co2 - Low Range Allowed 15%, Actual = 0.60%
Co2 - Mid Range Allowed 15%, Actual = 0.30%
CO Low Range - Mid Allowed 15%, Actual = 5.60%
CO Low Range - High Allowed 15%, Actual = 5.70%
CO High Range - Mid Allowed 15%, Actual = 0.50%
CO High Range - High Allowed 15%, Actual = 0.30%



MANITOWOC PUBLIC UTILITIES

1303 South 8th Street P.O. Box 1090 Manitowoc, WI 54221-1090 920-683-4600 FAX 920-686-4348 www.mpu.org

Certification Sheet

Having supervised and worked on the test programs described in these reports, and having written these reports, I hereby certify the data, information, and results in these reports to be accurate and true according to the methods and procedures used. Data collected under the supervision of others is included in these reports and is presumed to have been gathered in accordance with recognized standards.

Timothy Hardig
Timothy Hardig
Control Instrument Technician (CIT)

Reviewed by:

Brian Fassbender
Brian Fassbender
Plant Environmental Contact (PEC)

Jerry Ahlsweide
Jerry Ahlsweide
Central Cems Contact (CCC)

Manitowoc Public Utilities

Summary of Results Federal Register Part 60 Appendix B Performance Specification 1 Continuous Emission Monitoring Systems in Stationary Sources

S-10 OPACITY - QUARTERLY CALIBRATION ERROR TEST

Person Conducting Test: Tim Harding

Analyzer Mfr: Durag

Affiliation: Manitowoc Public Utilities

Model/Serial No: D-R 290 - 150 / S.N.1239978

Date: 9/23/2014

Location: Manitowoc Public Utilities / S10

Monitor Path Length, L: 183"

Emission Outlet Path Length L2: 144"

System Output Path Length Corrected? Yes No OPLR = .38 TAPER RATIO = 0.787

Calibrated Neutral Density Filter Values:

Actual Optical Density (% Opacity):

Low-Range	0.0740	15.7
Mid-Range	0.1357	26.8
High-Range	0.2555	44.5

Path Adjusted Optical Density (% Opacity):

Low-Range	12.6
Mid-Range	21.8
High-Range	37.1

Run Number	Calibration Filter Value	Instrument Reading	Arithmetic Difference		
			Low	Mid	High
(Path-Adjusted Percent Opacity)	(Opacity), Percent				
1 - Low	12.6	12.9	-0.30	--	--
2 - Mid	21.8	22.0	--	-0.20	--
3 - High	37.1	38.4	--	--	-1.30
4 - Low	12.6	12.9	-0.30	--	--
5 - Mid	21.8	22.0	--	-0.20	--
6 - High	37.1	38.4	--	--	-1.30
7 - Low	12.6	12.9	-0.30	--	--
8 - Mid	21.8	22.0	--	-0.20	--
9 - High	37.1	38.3	--	--	-1.20
10 - Low	12.6	12.9	-0.30	--	--
11 - Mid	21.8	22.0	--	-0.20	--
12 - High	37.1	38.4	--	--	-1.30
13 - Low	12.6	12.9	-0.30	--	--
14 - Mid	21.8	22.0	--	-0.20	--
15 - High	37.1	38.4	--	--	-1.30
Arithmetic Mean			X	-0.30	-0.20
Confidence Coefficient			CC	0.00	0.00
Calibration Error			X + CC	0.30	0.20
					1.34

Calibration Error Test Results:

Low Range - Allowed 3.0% Actual = 0.30%

Mid Range - Allowed 3.0% Actual = 0.20%

High Range - Allowed 3.0% Actual = 1.34%

Manitowoc Public Utilities

Summary of Results Federal Register Part 60 Appendix B Performance Specification 1 Continuous Emission Monitoring Systems in Stationary Sources

S-20 OPACITY - QUARTERLY CALIBRATION ERROR TEST

Person Conducting Test: Tim Harding

Affiliation: MPU

Date: 9/23/2014

Monitor Path Length, L: 168"

System Output Path Length Corrected? Yes No X OPLR = .50 TAPER RATIO = 1.000

Analyzer Mfr:Durag

Model/Serial No: D-R 290 - 150 / S.N.1239979

Location: Manitowoc Public Utilities / S20

Emission Outlet Path Length L2: 168"

Calibrated Neutral Density Filter Values:

Actual Optical Density (% Opacity):

Low-Range	0.0740	15.7
Mid-Range	0.1357	26.8
High-Range	0.2555	44.5

Path Adjusted Optical Density (% Opacity):

Low-Range	15.7
Mid-Range	26.8
High-Range	44.5

Run Number	Calibration Filter Value	Instrument Reading	Arithmetic Difference		
			Low	Mid	High
(Path-Adjusted Percent Opacity)	(Opacity), Percent				
1 - Low	15.7	15.8	-0.10	--	--
2 - Mid	26.8	26.9	--	-0.10	--
3 - High	44.5	45.7	--	--	-1.20
4 - Low	15.7	15.8	-0.10	--	--
5 - Mid	26.8	26.9	--	-0.10	--
6 - High	44.5	45.7	--	--	-1.20
7 - Low	15.7	15.8	-0.10	--	--
8 - Mid	26.8	26.9	--	-0.10	--
9 - High	44.5	45.7	--	--	-1.20
10 - Low	15.7	15.7	0.00	--	--
11 - Mid	26.8	26.9	--	-0.10	--
12 - High	44.5	45.7	--	--	-1.20
13 - Low	15.7	15.7	0.00	--	--
14 - Mid	26.8	26.9	--	-0.10	--
15 - High	44.5	45.7	--	--	-1.20
Arithmetic Mean			X	-0.06	-0.10
Confidence Coefficient			CC	0.07	0.00
Calibration Error			X + CC	0.13	0.10
					1.20

Calibration Error Test Results:

Low Range - Allowed 3.0% Actual = 0.13%

Mid Range - Allowed 3.0% Actual = 0.10%

High Range - Allowed 3.0% Actual = 1.20%

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/30/2014 23:59

Source: S20
Parameter: S20NOXLO
System ID: X05
Component ID: P06
Span Value: 200.000
Span Scale Code: L

Test End Date/Time: 09/11/14 11:19
Test Number: XML (P06-Q3-2014-2) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Low-Level					
09/11/14 09:11	51.700	51.600	0.100	0.2	Reference Mean: 51.700 Measured Mean: 51.800 Level Error: 0.2 APS Indicator: False Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: F12011 Cylinder #: CC238857 Cylinder Exp. Date: 09/17/2014
09/11/14 10:11	51.700	51.600	0.100	0.2	
09/11/14 11:09	51.700	52.200	-0.500	1.0	
Mid-Level					
09/11/14 09:16	108.300	107.900	0.400	0.4	Reference Mean: 108.300 Measured Mean: 108.067 Level Error: 0.2 APS Indicator: False Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: D42012 Cylinder #: SX55806 Cylinder Exp. Date: 07/24/2021
09/11/14 10:16	108.300	107.200	1.100	1.0	
09/11/14 11:14	108.300	109.100	-0.800	0.7	
High-Level					
09/11/14 09:21	176.100	176.700	-0.600	0.3	Reference Mean: 176.100 Measured Mean: 176.733 Level Error: 0.4 APS Indicator: False Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: D42012 Cylinder #: SX52720 Cylinder Exp. Date: 07/24/2021
09/11/14 10:21	176.100	176.700	-0.600	0.3	
09/11/14 11:19	176.100	176.800	-0.700	0.4	

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/30/2014 23:59

Source: S20
Parameter: S20NOXHI
System ID: X05
Component ID: P06
Span Value: 500.000
Span Scale Code: H

Test End Date/Time: 09/11/14 13:19
Test Number: XML (P06-Q3-2014-1) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	Reference Mean: 119.000 Measured Mean: 121.333 Level Error: 2.0 APS Indicator: False Gas Type Code: BALN,CO,CO2,NO,SO2 Vendor Identifier: F12011 Cylinder #: CC101486 Cylinder Exp. Date: 10/25/2014
Low-Level					
09/11/14 11:51	119.000	121.700	-2.700	2.3	
09/11/14 12:39	119.000	122.800	-3.800	3.2	
09/11/14 13:09	119.000	119.500	-0.500	0.4	
Mid-Level					
09/11/14 11:56	284.000	286.200	-2.200	0.8	
09/11/14 12:44	284.000	285.600	-1.600	0.6	
09/11/14 13:14	284.000	283.600	0.400	0.1	
High-Level					
09/11/14 12:01	458.900	463.200	-4.300	0.9	
09/11/14 12:49	458.900	461.300	-2.400	0.5	
09/11/14 13:19	458.900	467.100	-8.200	1.8	

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/30/2014 23:59

Source: S20
Parameter: S20SO2LO
System ID:
Component ID: P05
Span Value: 400.000
Span Scale Code: L

Test End Date/Time: 09/11/14 11:19
Test Number: XML (P05-Q3-2014-2) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Low-Level					
09/11/14 09:11	100.900	102.200	-1.300	1.3	Reference Mean: 100.900 Measured Mean: 101.967 Level Error: 1.1 APS Indicator: False Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: F12011 Cylinder #: CC238857 Cylinder Exp. Date: 09/17/2014
09/11/14 10:11	100.900	101.100	-0.200	0.2	
09/11/14 11:09	100.900	102.600	-1.700	1.7	
Mid-Level					
09/11/14 09:16	222.700	222.600	0.100	0.0	Reference Mean: 222.700 Measured Mean: 223.200 Level Error: 0.2 APS Indicator: False Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: D42012 Cylinder #: SX55806 Cylinder Exp. Date: 07/24/2021
09/11/14 10:16	222.700	222.400	0.300	0.1	
09/11/14 11:14	222.700	224.600	-1.900	0.9	
High-Level					
09/11/14 09:21	361.500	362.300	-0.800	0.2	Reference Mean: 361.500 Measured Mean: 364.967 Level Error: 1.0 APS Indicator: False Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: D42012 Cylinder #: SX52720 Cylinder Exp. Date: 07/24/2021
09/11/14 10:21	361.500	365.000	-3.500	1.0	
09/11/14 11:19	361.500	367.600	-6.100	1.7	

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/30/2014 23:59

Source: S20
Parameter: S20SO2HI
System ID:
Component ID: P05
Span Value: 4,000.000
Span Scale Code: H

Test End Date/Time: 09/11/14 13:19
Test Number: XML (P05-Q3-2014-1) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	Reference Mean: 1,011.000 Measured Mean: 1,022.500 Level Error: 1.1 APS Indicator: False Gas Type Code: BALN,CO,CO2,NO,SO2 Vendor Identifier: F12011 Cylinder #: CC101486 Cylinder Exp. Date: 10/25/2014
Low-Level					
09/11/14 11:51	1011.000	1018.100	-7.100	0.7	
09/11/14 12:39	1011.000	1021.400	-10.400	1.0	
09/11/14 13:09	1011.000	1028.000	-17.000	1.7	
Mid-Level					
09/11/14 11:56	2200.000	2253.200	-53.200	2.4	
09/11/14 12:44	2200.000	2260.600	-60.600	2.8	
09/11/14 13:14	2200.000	2256.600	-56.600	2.6	
High-Level					
09/11/14 12:01	3580.700	3547.600	33.100	0.9	
09/11/14 12:49	3580.700	3564.900	15.800	0.4	
09/11/14 13:19	3580.700	3595.200	-14.500	0.4	

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/30/2014 23:59

Source: S20
Parameter: S20CPCO2
System ID: X09
Component ID: P04
Span Value: 20.000
Span Scale Code: H

Test End Date/Time: 09/11/14 13:19
Test Number: XML (P04-Q3-2014-2) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Low-Level					
09/11/14 11:51	5.600	5.600	0.000	0.0	Reference Mean: 5.600
09/11/14 12:39	5.600	5.600	0.000	0.0	Measured Mean: 5.600
09/11/14 13:09	5.600	5.600	0.000	0.0	Level Error: 0.0
					APS Indicator: False
					Gas Type Code: BALN,CO,CO2,NO,SO2
					Vendor Identifier: F12011
					Cylinder #: CC101486
					Cylinder Exp. Date: 10/25/2014

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Mid-Level					
09/11/14 11:56	10.700	10.700	0.000	0.0	Reference Mean: 10.700
09/11/14 12:44	10.700	10.800	-0.100	0.9	Measured Mean: 10.767
09/11/14 13:14	10.700	10.800	-0.100	0.9	Level Error: 0.6
					APS Indicator: False
					Gas Type Code: BALN,CO,CO2,NO,SO2
					Vendor Identifier: D42012
					Cylinder #: SX19581
					Cylinder Exp. Date: 07/19/2021

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
High-Level					
09/11/14 12:01	17.700	18.100	-0.400	2.3	Reference Mean: 17.700
09/11/14 12:49	17.700	18.200	-0.500	2.8	Measured Mean: 18.167
09/11/14 13:19	17.700	18.200	-0.500	2.8	Level Error: 2.6
					APS Indicator: False
					Gas Type Code: BALN,CO,CO2,NO,SO2
					Vendor Identifier: D42012
					Cylinder #: SX21246
					Cylinder Exp. Date: 07/19/2021

Cylinder Gas Audit

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/30/2014 23:59

Source: S20
Parameter: S20PCOLO
Instrument Span: 100.000

Test Date/Time: 09/11/14 11:19
Test Result: Pass
Aborted?: No

Time	CEMS Value	Audit Value	Difference	% of Audit Value	
Low-Level					
09/11/14 09:11	33.4002	5.100	8.300	33.1	CEMS Mean (Cm): 28.367 Audit Mean (Ca): 25.100 Accuracy (A) in %: 13.0 Mean Difference: 3.3 APS Indicator: 0 Cylinder #: CC238857 Cylinder Exp. Date: 09/17/2014
09/11/14 10:11	26.3002	5.100	1.200	4.8	
09/11/14 11:09	25.4002	5.100	0.300	1.2	
Mid-Level					
09/11/14 09:16	54.1005	4.900	-0.800	-1.5	CEMS Mean (Cm): 54.933 Audit Mean (Ca): 54.900 Accuracy (A) in %: 0.1 Mean Difference: 0.0 APS Indicator: 0 Cylinder #: SX55806 Cylinder Exp. Date: 07/24/2021
09/11/14 10:16	55.6005	4.900	0.700	1.3	
09/11/14 11:14	55.1005	4.900	0.200	0.4	
High-Level					
09/11/14 09:21	90.4009	1.400	-1.000	-1.1	CEMS Mean (Cm): 90.367 Audit Mean (Ca): 91.400 Accuracy (A) in %: -1.1 Mean Difference: -1.0 APS Indicator: 0 Cylinder #: SX52720 Cylinder Exp. Date: 07/24/2021
09/11/14 10:21	90.7009	1.400	-0.700	-0.8	
09/11/14 11:19	90.0009	1.400	-1.400	-1.5	

Cylinder Gas Audit

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/30/2014 23:59

Source: S20

Test Date/Time: 09/11/14 13:19

Parameter: S20PCOHI

Test Result: Pass

Instrument Span: 5000.000

Aborted?: No

Time	CEMS Value	Audit Value	Difference	% of Audit Value	CEMS Mean (Cm): 1267.200 Audit Mean (Ca): 1259.000 Accuracy (A) in %: 0.7 Mean Difference: 8.2 APS Indicator: 0 Cylinder #: CC101486 Cylinder Exp. Date: 10/25/2014
Low-Level					
09/11/14 11:51	1,262.900	1,259.000	3.900	0.3	
09/11/14 12:39	1,267.900	1,259.000	8.900	0.7	
09/11/14 13:09	1,270.800	1,259.000	11.800	0.9	
Time	CEMS Value	Audit Value	Difference	% of Audit Value	CEMS Mean (Cm): 2759.100 Audit Mean (Ca): 2700.000 Accuracy (A) in %: 2.2 Mean Difference: 59.1 APS Indicator: 0 Cylinder #: SX19581 Cylinder Exp. Date: 07/19/2021
Mid-Level					
09/11/14 11:56	2,752.600	2,700.000	52.600	1.9	
09/11/14 12:44	2,763.100	2,700.000	63.100	2.3	
09/11/14 13:14	2,761.600	2,700.000	61.600	2.3	
Time	CEMS Value	Audit Value	Difference	% of Audit Value	CEMS Mean (Cm): 4383.533 Audit Mean (Ca): 4553.700 Accuracy (A) in %: -3.7 Mean Difference: -170.2 APS Indicator: 0 Cylinder #: SX21246 Cylinder Exp. Date: 07/19/2021
High-Level					
09/11/14 12:01	4,375.900	4,553.700	-177.800	-3.9	
09/11/14 12:49	4,420.100	4,553.700	-133.600	-2.9	
09/11/14 13:19	4,354.600	4,553.700	-199.100	-4.4	

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/24/2014 23:59

Source: B9
Parameter: B9PNOXLO
System ID: X05
Component ID: P03
Span Value: 200.000

Span Scale Code: L

Test End Date/Time: 09/08/14 11:19
Test Number: XML (P03-Q3-2014-2) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Low-Level					
09/08/14 09:11	52.000	53.000	-1.000	1.9	Reference Mean: 52.000 Measured Mean: 52.467 Level Error: 0.9 APS Indicator: False
09/08/14 10:12	52.000	52.500	-0.500	1.0	Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: D42012 Cylinder #: SX22556
09/08/14 11:09	52.000	51.900	0.100	0.2	Cylinder Exp. Date: 04/04/2022

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Mid-Level					
09/08/14 09:18	108.300	111.000	-2.700	2.5	Reference Mean: 108.300 Measured Mean: 112.300 Level Error: 3.7 APS Indicator: False
09/08/14 10:17	108.300	111.900	-3.600	3.3	Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: D32011 Cylinder #: SX45676
09/08/14 11:14	108.300	114.000	-5.700	5.3	Cylinder Exp. Date: 07/24/2021

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
High-Level					
09/08/14 09:25	183.000	189.500	-6.500	3.6	Reference Mean: 183.000 Measured Mean: 189.767 Level Error: 3.7 APS Indicator: False
09/08/14 10:22	183.000	187.000	-4.000	2.2	Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: F12011 Cylinder #: CC76167
09/08/14 11:19	183.000	192.800	-9.800	5.4	Cylinder Exp. Date: 02/26/2022

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/24/2014 23:59

Source: B9
Parameter: B9PNOX
System ID: X05
Component ID: P03
Span Value: 500.000
Span Scale Code: H

Test End Date/Time: 09/08/14 13:52
Test Number: XML (P03-Q3-2014-1) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference
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Low-Level					
09/08/14 11:54	129.800	127.900	1.900		1.5
09/08/14 12:41	129.800	130.900	-1.100		0.8
09/08/14 13:40	129.800	131.100	-1.300		1.0

Reference Mean: 129.800
Measured Mean: 129.967
Level Error: 0.1
APS_Indicator: False
Gas Type Code: BALN,CO,CO2,NO,SO2
Vendor Identifier: D32011
Cylinder #: SX24364
Cylinder Exp. Date: 04/10/2022

Injection Time	Reference Value	Measured Value	Difference	% of Reference
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Mid-Level				
09/08/14 12:00	268.100	271.900	-3.800	1.4
09/08/14 12:47	268.100	272.100	-4.000	1.5
09/08/14 13:46	268.100	275.500	-7.400	2.8

Reference Mean: 268.100
Measured Mean: 273.167
Level Error: 1.9
APS Indicator: False
Gas Type Code: BALN,CO,CO2,NO,SO2
Vendor Identifier: D42012
Cylinder #: SX53523
Cylinder Exp. Date: 07/19/2021

Injection Time	Reference Value	Measured Value	Difference	% of Reference
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High-Level				
09/08/14 12:06	458.900	464.100	-5.200	1.1
09/08/14 12:53	458.900	463.300	-4.400	1.0
09/08/14 13:52	458.900	461.700	-2.800	0.6

Reference Mean: 458.900
Measured Mean: 463.033
Level Error: 0.9
APS Indicator: False
Gas Type Code: BALN,CO,CO2,NO,SO2
Vendor Identifier: D42012
Cylinder #: SX21246
Cylinder Exp. Date: 07/19/2021

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/24/2014 23:59

Source: B9
Parameter: B9PSO2LO
System ID:
Component ID: P01
Span Value: 400.000
Span Scale Code: L

Test End Date/Time: 09/08/14 11:19
Test Number: XML (P01-Q3-2014-2) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Low-Level					
09/08/14 09:11	96.700	99.700	-3.000	3.1	Reference Mean: 96.700 Measured Mean: 99.133 Level Error: 2.5 APS Indicator: False
09/08/14 10:12	96.700	99.300	-2.600	2.7	Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: D42012
09/08/14 11:09	96.700	98.400	-1.700	1.8	Cylinder #: SX22556 Cylinder Exp. Date: 04/04/2022

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Mid-Level					
09/08/14 09:18	223.100	227.900	-4.800	2.2	Reference Mean: 223.100 Measured Mean: 227.767 Level Error: 2.1 APS Indicator: False
09/08/14 10:17	223.100	227.200	-4.100	1.8	Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: D32011
09/08/14 11:14	223.100	228.200	-5.100	2.3	Cylinder #: SX45676 Cylinder Exp. Date: 07/24/2021

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
High-Level					
09/08/14 09:25	360.000	368.100	-8.100	2.3	Reference Mean: 360.000 Measured Mean: 366.933 Level Error: 1.9 APS Indicator: False
09/08/14 10:22	360.000	366.800	-6.800	1.9	Gas Type Code: BALN,CO,NO,SO2 Vendor Identifier: F12011
09/08/14 11:19	360.000	365.900	-5.900	1.6	Cylinder #: CC76167 Cylinder Exp. Date: 02/26/2022

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/24/2014 23:59

Source: B9
Parameter: B9PSO2HI
System ID:
Component ID: P01
Span Value: 4,000.000
Span Scale Code: H

Test End Date/Time: 09/08/14 13:52
Test Number: XML (P01-Q3-2014-1) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Low-Level					
09/08/14 11:54	1002.800	1006.000	-3.200	0.3	Reference Mean: 1,002.800
09/08/14 12:41	1002.800	1014.200	-11.400	1.1	Measured Mean: 1,009.467
09/08/14 13:40	1002.800	1008.200	-5.400	0.5	Level Error: 0.7
					- APS Indicator: False
					Gas Type Code: BALN,CO,CO2,NO,SO2
					Vendor Identifier: D32011
					Cylinder #: SX24364
					Cylinder Exp. Date: 04/10/2022

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
Mid-Level					
09/08/14 12:00	2173.500	2171.600	1.900	0.1	Reference Mean: 2,173.500
09/08/14 12:47	2173.500	2203.000	-29.500	1.4	Measured Mean: 2,184.733
09/08/14 13:46	2173.500	2179.600	-6.100	0.3	Level Error: 0.5
					- APS Indicator: False
					Gas Type Code: BALN,CO,CO2,NO,SO2
					Vendor Identifier: D42012
					Cylinder #: SX53523
					Cylinder Exp. Date: 07/19/2021

Injection Time	Reference Value	Measured Value	Difference	% of Reference	
High-Level					
09/08/14 12:06	3580.700	3580.000	0.700	0.0	Reference Mean: 3,580.700
09/08/14 12:53	3580.700	3583.000	-2.300	0.1	Measured Mean: 3,571.700
09/08/14 13:52	3580.700	3552.100	28.600	0.8	Level Error: 0.3
					- APS Indicator: False
					Gas Type Code: BALN,CO,CO2,NO,SO2
					Vendor Identifier: D42012
					Cylinder #: SX21246
					Cylinder Exp. Date: 07/19/2021

Linearity Test

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/24/2014 23:59

Source: B9
Parameter: B9CPCO2
System ID: X09
Component ID: P04
Span Value: 20.000
Span Scale Code: H

Test End Date/Time: 09/08/14 13:52
Test Number: XML (P04-Q3-2014-1) / EDR (1)
Reason for Test: Periodic Quality Assurance
Test Result: Pass
Abbreviated?: No

Injection Time	Reference Value	Measured Value	Difference	% of Reference	Reference Mean: 5.500	Measured Mean: 5.533	Level Error: 0.6
Low-Level							
09/08/14 11:54	5.500	5.600	-0.100	1.8	APS Indicator: False		
09/08/14 12:41	5.500	5.500	0.000	0.0	Gas Type Code: BALN,CO,CO2,NO,SO2		
09/08/14 13:40	5.500	5.500	0.000	0.0	Vendor Identifier: D32011		
					Cylinder #: SX24364		
					Cylinder Exp. Date: 04/10/2022		

Injection Time	Reference Value	Measured Value	Difference	% of Reference	Reference Mean: 11.300	Measured Mean: 11.267	Level Error: 0.3
Mid-Level							
09/08/14 12:00	11.300	11.200	0.100	0.9	APS Indicator: False		
09/08/14 12:47	11.300	11.300	0.000	0.0	Gas Type Code: BALN,CO,CO2,NO,SO2		
09/08/14 13:46	11.300	11.300	0.000	0.0	Vendor Identifier: D42012		
					Cylinder #: SX53523		
					Cylinder Exp. Date: 07/19/2021		

Injection Time	Reference Value	Measured Value	Difference	% of Reference	Reference Mean: 17.700	Measured Mean: 17.700	Level Error: 0.0
High-Level							
09/08/14 12:06	17.700	17.700	0.000	0.0	APS Indicator: False		
09/08/14 12:53	17.700	17.700	0.000	0.0	Gas Type Code: BALN,CO,CO2,NO,SO2		
09/08/14 13:52	17.700	17.700	0.000	0.0	Vendor Identifier: D42012		
					Cylinder #: SX21246		
					Cylinder Exp. Date: 07/19/2021		

Cylinder Gas Audit

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/24/2014 23:59

Source: B9
Parameter: B9PCOLO
Instrument Span: 100.000

Test Date/Time: 09/08/14 11:19
Test Result: Pass
Aborted?: No

Time	CEMS Value	Audit Value	Difference	% of Audit Value
Low-Level				
09/08/14 09:11	24.9002	4.900	0.000	0.0
09/08/14 10:12	24.5002	4.900	-0.400	-1.6
09/08/14 11:09	24.6002	4.900	-0.300	-1.2

CEMS Mean (Cm): 24.667
Audit Mean (Ca): 24.900
Accuracy (A) in %: -0.9
Mean Difference: -0.2
APS Indicator: 0
Cylinder #: SX22556
Cylinder Exp. Date: 04/04/2022

Time	CEMS Value	Audit Value	Difference	% of Audit Value
Mid-Level				
09/08/14 09:18	58.3005	5.200	3.100	5.6
09/08/14 10:17	57.5005	5.200	2.300	4.2
09/08/14 11:14	59.1005	5.200	3.900	7.1

CEMS Mean (Cm): 58.300
Audit Mean (Ca): 55.200
Accuracy (A) in %: 5.6
Mean Difference: 3.1
APS Indicator: 0
Cylinder #: SX45676
Cylinder Exp. Date: 07/24/2021

Time	CEMS Value	Audit Value	Difference	% of Audit Value
High-Level				
09/08/14 09:25	95.1009	1.200	3.900	4.3
09/08/14 10:22	95.4009	1.200	4.200	4.6
09/08/14 11:19	98.8009	1.200	7.600	8.3

CEMS Mean (Cm): 96.433
Audit Mean (Ca): 91.200
Accuracy (A) in %: 5.7
Mean Difference: 5.2
APS Indicator: 0
Cylinder #: CC76167
Cylinder Exp. Date: 02/26/2022

Cylinder Gas Audit

Plant: Manitowoc Public Utilities

Report Period: 07/01/2014 00:00 Through 09/24/2014 23:59

Source: B9
Parameter: B9PCOH
Instrument Span: 5000.000

Test Date/Time: 09/08/14 13:52
Test Result: Pass
Aborted?: No

Time	CEMS Value	Audit Value	Difference	% of Audit Value
Low-Level				
09/08/14 11:54	1,245.900	1,225.700	20.200	1.6
09/08/14 12:41	1,245.800	1,225.700	20.100	1.6
09/08/14 13:40	1,244.200	1,225.700	18.500	1.5

CEMS Mean (Cm): 1245.300
Audit Mean (Ca): 1225.700
Accuracy (A) in %: 1.6
Mean Difference: 19.6
APS Indicator: 0

Cylinder #: SX24364
Cylinder Exp. Date: 04/10/2022

Time	CEMS Value	Audit Value	Difference	% of Audit Value
Mid-Level				
09/08/14 12:00	2,655.300	2,675.200	-19.900	-0.7
09/08/14 12:47	2,670.900	2,675.200	-4.300	-0.2
09/08/14 13:46	2,661.900	2,675.200	-13.300	-0.5

CEMS Mean (Cm): 2662.700
Audit Mean (Ca): 2675.200
Accuracy (A) in %: -0.5
Mean Difference: -12.5
APS Indicator: 0

Cylinder #: SX53523
Cylinder Exp. Date: 07/19/2021

Time	CEMS Value	Audit Value	Difference	% of Audit Value
High-Level				
09/08/14 12:06	4,503.400	4,533.800	-30.400	-0.7
09/08/14 12:53	4,530.900	4,533.800	-2.900	-0.1
09/08/14 13:52	4,528.700	4,533.800	-5.100	-0.1

CEMS Mean (Cm): 4521.000
Audit Mean (Ca): 4533.800
Accuracy (A) in %: -0.3
Mean Difference: -12.8
APS Indicator: 0

Cylinder #: SX21246
Cylinder Exp. Date: 07/19/2021